```
Connecting via Winsock to STN



Welcome to STN International!  Enter x:x

LOGINID:ssptacmb1647

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2


* * * * * * * * * *   Welcome to STN International   * * * * * * * * * *

 NEWS  1          Web Page for STN Seminar Schedule - N. America
 NEWS  2  DEC 01  ChemPort single article sales feature unavailable
 NEWS  3  APR 03  CAS coverage of exemplified prophetic substances
                  enhanced
 NEWS  4  APR 07  STN is raising the limits on saved answers
 NEWS  5  APR 24  CA/CAplus now has more comprehensive patent assignee
                  information
 NEWS  6  APR 26  USPATFULL and USPAT2 enhanced with patent
                  assignment/reassignment information
 NEWS  7  APR 28  CAS patent authority coverage expanded
 NEWS  8  APR 28  ENCOMPLIT/ENCOMPLIT2 search fields enhanced
 NEWS  9  APR 28  Limits doubled for structure searching in CAS
                  REGISTRY
 NEWS 10  MAY 08  STN Express, Version 8.4, now available
 NEWS 11  MAY 11  STN on the Web enhanced
 NEWS 12  MAY 11  BEILSTEIN substance information now available on
                  STN Easy
 NEWS 13  MAY 14  DGENE, PCTGEN and USGENE enhanced with increased
                  limits for exact sequence match searches and
                  introduction of free HIT display format
 NEWS 14  MAY 15  INPADOCDB and INPAFAMDB enhanced with Chinese legal
                  status data
 NEWS 15  MAY 28  CAS databases on STN enhanced with NANO super role in
                  records back to 1992
 NEWS 16  JUN 01  CAS REGISTRY Source of Registration (SR) searching
                  enhanced on STN

 NEWS EXPRESS MAY 26 09 CURRENT WINDOWS VERSION IS V8.4,
              AND CURRENT DISCOVER FILE IS DATED 06 APRIL 2009.

 NEWS HOURS    STN Operating Hours Plus Help Desk Availability
 NEWS LOGIN    Welcome Banner and News Items

Enter NEWS followed by the item number or name to see news on that
specific topic.

  All use of STN is subject to the provisions of the STN customer
  agreement.  This agreement limits use to scientific research.  Use
  for software development or design, implementation of commercial
  gateways, or use of CAS and STN data in the building of commercial
  products is prohibited and may result in loss of user privileges
  and other penalties.

* * * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 10:50:01 ON 10 JUN 2009
```

```
=> file medline biosis caplus embase
COST IN U.S. DOLLARS                            SINCE FILE      TOTAL
                                                     ENTRY    SESSION
FULL ESTIMATED COST                                   0.22       0.22

FILE 'MEDLINE' ENTERED AT 10:50:15 ON 10 JUN 2009

FILE 'BIOSIS' ENTERED AT 10:50:15 ON 10 JUN 2009
Copyright (c) 2009 The Thomson Corporation

FILE 'CAPLUS' ENTERED AT 10:50:15 ON 10 JUN 2009
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2009 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'EMBASE' ENTERED AT 10:50:15 ON 10 JUN 2009
Copyright (c) 2009 Elsevier B.V. All rights reserved.

=> s periodon?
L1      113233 PERIODON?

=> s l1 and (implant or transplant)
L2        6558 L1 AND (IMPLANT OR TRANSPLANT)

=> s l2 and (growth(w)factor)
   3 FILES SEARCHED...
L3         343 L2 AND (GROWTH(W) FACTOR)

=> s l3 and regenerat?
L4         175 L3 AND REGENERAT?

=> s l4 and py<2004
L5          82 L4 AND PY<2004

=> s l5 and (cementum or ligament or alveolar or gingival or pulp)
L6          55 L5 AND (CEMENTUM OR LIGAMENT OR ALVEOLAR OR GINGIVAL OR PULP)

=> dup rem l6
PROCESSING COMPLETED FOR L6
L7           49 DUP REM L6 (6 DUPLICATES REMOVED)

=> dis ibib abs l7 1-49

L7   ANSWER 1 OF 49  CAPLUS  COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER:        2006:648561  CAPLUS
DOCUMENT NUMBER:         145:110524
TITLE:                   Combined use of cementum attachment protein
                         and cyclosporin A for improved attachment of dental
                         and orthopedic implants
INVENTOR(S):             Narayanan, A. Sampath; Pitaru, Sandu; Page, Roy C.;
                         Allison, Anthony C.
PATENT ASSIGNEE(S):      USA
SOURCE:                  U.S., 11 pp., Cont.-in-part of U.S. Ser. No. 367,168,
                         abandoned.
                         CODEN: USXXAM
DOCUMENT TYPE:           Patent
LANGUAGE:                English
FAMILY ACC. NUM. COUNT:  2
PATENT INFORMATION:

     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
```

US 7071162	B1	20060704	US 2003-410762		20030409
WO 9930726	A1	19990624	WO 1998-US26396		19981211 <--
W: CA, JP, US					
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE					
PRIORITY APPLN. INFO.:			US 1997-69638P	P	19971215
			WO 1998-US26396	A2	19981211
			US 1999-367168	B2	19991115

AB The present invention relates to a method for inducing the formation of cementum and a periodontal ligament between a dental implant and bone by administering cementum attachment protein (CAP) together with a calcineurin inhibitor such as cyclosporin A (CSA). Also contemplated is an implant kit comprising a titanium or other biol. inert dental or orthopedic implant and a coating of CAP and a calcineurin inhibitor such as CSA. Furthermore, application of CAP and CSA to dental root surfaces can be used to induce the regeneration of a periodontal ligament during treatment for periodontal disease. A similar method for reattaching a fibrous structure, such as a tendon, ligament or joint capsule, to bone is described.

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 2 OF 49 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2003:633417 CAPLUS
DOCUMENT NUMBER: 139:169389
TITLE: Bioresorbable osteoconductive compositions for bone regeneration
INVENTOR(S): Wise, Donald L.; Trantolo, Debra J.; Lewandrowski, Kai-Uwe; Gresser, Joseph D.
PATENT ASSIGNEE(S): Cambridge Scientific, Inc., USA
SOURCE: PCT Int. Appl., 58 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 2003065996	A2	20030814	WO 2003-US3567		20030205 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW					
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG					
CA 2475110	A1	20030814	CA 2003-2475110		20030205 <--
AU 2003219715	A1	20030902	AU 2003-219715		20030205 <--
US 20030180344	A1	20030925	US 2003-359445		20030205 <--
JP 2005521440	T	20050721	JP 2003-565422		20030205
PRIORITY APPLN. INFO.:			US 2002-354833P	P	20020205
			WO 2003-US3567	W	20030205

AB Bioresorbable osteoconductive compns. and methods of using the composition as a scaffold for bone repair in periodontal, alveolar or maxillary regeneration, bony cranial defects, and spinal regeneration are disclosed. The bioresorbable compns. contain a

bioresorbable polymer, a micro or nano particulate filler and a pore creating substance. The bioresorbable polymer can be electronically unsatd. and crosslinkable with a crosslinking agent. The micro or nano filler can be any natural biocompatible material such as a metals, calcium carbonate, carbon, a biocompatible synthetic material, or a bioceramics such as hydroxyapatite. The pore creating substance can be an effervescent agent such as a carbonate and an acid. Nano- or micro-hydroxyapatite particulated augments poly(propylene fumarate) bone grafts.

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 3 OF 49 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2003:884803 CAPLUS

DOCUMENT NUMBER: 139:375599

TITLE: Periodontal regeneration in humans using recombinant human platelet-derived growth factor-BB (rhPDGF-BB) and allogenic bone

AUTHOR(S): Nevins, Myron; Camelo, Marcelo; Nevins, Marc L.; Schenk, Robert K.; Lynch, Samuel E.

CORPORATE SOURCE: Institute for Advanced Dental Studies, Swampscott, MA, USA

SOURCE: Journal of Periodontology (2003), 74(9), 1282-1292
CODEN: JOPRAJ; ISSN: 0022-3492

PUBLISHER: American Academy of Periodontology

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Background: Purified recombinant human platelet-derived growth factor BB (rhPDGF-BB) is a potent wound healing growth factor and stimulator of the proliferation and recruitment of both periodontal ligament (PDL) and bone cells. The hypothesis tested in this study was that application of rhPDGF-BB incorporated in bone allograft would induce regeneration of a complete new attachment apparatus, including bone, periodontal ligament, and cementum in human interproximal intrabony defects and molar Class II furcation lesions. Methods: Nine adult patients (15 sites) with advanced periodontitis exhibiting at least one tooth requiring extraction due to an extensive interproximal intrabony and/or molar Class II furcation defect were entered into the study. Eleven defects were randomly selected to receive rhPDGF-BB. Following full-thickness flap reflection and initial debridement, the tooth roots were notched at the apical extent of the calculus, the osseous defects were thoroughly debrided, and the tooth root(s) were planed/prepared The osseous defects were then filled with demineralized freeze-dried bone allograft (DFDBA) saturated with one of three concns. of rhPDGF-BB (0.5 mg/mL, 1.0 mg/mL). Concurrently, four interproximal defects were treated with a well accepted com. available graft (anorg. bovine bone in collagen, ABB-C) and a bilayer collagen membrane. Radiographs, clin. probing depths, and attachment levels were obtained pre-operatively (at baseline) and 9 mo later. At 9 mo postoperatively, the study tooth and surrounding tissues were removed en bloc. Clin. and radiog. data were analyzed for change from baseline by defect type and PDGF concentration The histol. specimens were analyzed for the presence of regeneration of a complete new attachment apparatus coronal to the reference notch. Results: The post-surgical wound rapidly healed and was characterized by firm, pink gingivae within 7 to 10 days of surgery. There were no unfavorable tissue reactions or other safety concerns associated with the treatments throughout the course of the study. In rhPDGF/allograft sites, the vertical probing depth (vPD) reduction for interproximal defects was 6.42±1.69 mm (mean ± SD) and

clin. attachment level (CAL) gain was 6.17±1.94 mm (both P<0.01). Radiog. fill was 2.14 ± 0.85 mm. Sites filled with ABB-C had a PD reduction and CAL gain of 5.75±0.5 and 5.25±1.71, resp. Furcation defects treated with rhPDGF/allograft exhibited a mean horizontal and vertical PD reduction of 3.40±0.55 mm (P<0.001) and 4.00±1.58 mm (P<0.005), resp. The CAL gain for furcation defects was 3.2±2.17 mm (P<0.030). Histol. evaluation revealed regeneration of a complete periodontal attachment apparatus, including new cementum, PDL, and bone coronal to the root notch in four of the six interproximal defects and all evaluate (four of four) furcation defects treated with PDGF. Two of the four interproximal intrabony defects treated with ABB-C and membrane exhibited regeneration. Conclusions: Use of purified rhPDGF-BB mixed with bone allograft results in robust periodontal regeneration in both Class II furcations and interproximal intrabody defects. This is the first report of periodontal regeneration demonstrated histol. in human Class II furcation defects.

REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 4 OF 49 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2003:884802 CAPLUS

DOCUMENT NUMBER: 140:229309

TITLE: Periodontal regeneration with a combination of enamel matrix proteins and autogenous bone grafting

AUTHOR(S): Cochran, David L.; Jones, Archie; Heijl, Lars; Mellonig, James T.; Schoolfield, John; King, Gaston N.

CORPORATE SOURCE: Department of Periodontics, University of Texas Health Science Center at San Antonio, San Antonio, TX, USA

SOURCE: Journal of Periodontology (2003), 74(9), 1269-1281
CODEN: JOPRAJ; ISSN: 0022-3492

PUBLISHER: American Academy of Periodontology

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Background: Attempts to stimulate periodontal regeneration in the past have focused on either filling the defect with some type of material or providing a space for host cells to repopulate the site and elicit new tissue. In some cases, these approaches have been combined with the assumption that the filler material will help maintain the space necessary for the host cells to invade the area. Growth stimulating substances such as growth factors and other proteins have also been used to encourage periodontal tissue regeneration and histol. evaluation supports the use of these substances. Thus, the role for and the necessity of a certain amount of space maintenance for periodontal regeneration is not exactly understood. In addition, it is not known if there is some critical size required for space maintenance or for exactly how long the space must be maintained in order for the host cells to stimulate new cementum, periodontal ligament , and bone. The goal of this study was to evaluate periodontal regeneration in intrabony defects of various sizes treated with a combination of enamel matrix proteins and autogenous bone graft. Methods: Periodontal defects ranging in size from 1 to 6 mm were randomized and created bilaterally beside three teeth in the mandibles of baboons. Plaque was allowed to accumulate around wire ligatures placed into the defects. After 2 mo, the wire ligatures were removed, the teeth and roots scaled and root planed, and a notch was placed with a chisel at the base of the defect. On one side of the mandible, neutral ethylene diamine tetraacetic acid and enamel matrix derivative (EMD) were first used to treat the defect. Autogenous bone taken from the same surgical site was treated

with enamel matrix derivative in a dampen dish and then added to the EMD-treated defects. The other side of the mandible served as control with neutral ethylene diamine tetraacetic acid and scaling and root planing. Flaps were sutured and the animals were allowed to heal without oral hygiene procedures. After 5 mo, the animals were sacrificed and the teeth were processed for histol. evaluation. Results: The results revealed new cementum, periodontal ligament with Sharpey's fibers, and new bone tissue similar to native periodontal tissues. Remnants of the autogenous bone chips were still present at this 5-mo post-healing period. Thus periodontal regeneration occurred in all sizes of the periodontal defects. In general, EMD plus autogenous graft treatment resulted in greater tissue formation than controls. In fact, in many cases, very dramatic tissue formation occurred far coronal to the base of the defects in the EMD plus autogenous graft-treated lesions. In addition, horizontal bone fill occurred in the defects and was prominent in the 4 or 6 mm wide lesions. When evaluating the combined 1 and 2 mm defects, the height of new cementum with EMD plus graft was 3.88 mm vs. 2.03 mm in the controls, a statistically significant ($P < 0.005$) difference. In the wider (4 and 6 mm) lesions, this difference was not significant and was much less between treated and control lesions with 2.78 and 2.57 mm of new cementum resp. In the case of new bone height, in the smaller lesions EMD plus graft resulted in 4.00 mm new bone vs. 2.22 mm in the controls, again a statistically significant ($P<0.005$) difference. In the larger lesions, EMD plus autogenous bone graft had 3.24 mm new bone height compared to 2.71 mm in the controls, a difference that was not statistically significant. Addnl., in the smaller lesions, new cementum width at the level of the notch was twice as great (statistically significant, $P < 0.015$) in the EMD plus graft sites compared to control. The width of the periodontal ligament at the coronal aspect of the new bone tissue was similar in the smaller lesions between treated and control sites. The results from the wider defects must be interpreted cautiously as the interproximal bone heights were remodeled adjacent to the wider defects and likely limited the potential for regeneration.

REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 5 OF 49 MEDLINE on STN

ACCESSION NUMBER: 2003401195 MEDLINE

DOCUMENT NUMBER: PubMed ID: 12887340

TITLE: Periodontal repair in dogs: space-providing ePTFE devices increase rhBMP-2/ACS-induced bone formation.

AUTHOR: Wikesjo Ulf M E; Xiropaidis Andreas V; Thomson Robert C; Cook Alonzo D; Selvig Knut A; Hardwick W Ross

CORPORATE SOURCE: Laboratory for Applied Periodontal and Craniofacial Regeneration, Department of Periodontology, Temple University School of Dentistry, Philadelphia, PA 19140, USA.. ulf.wikesjo@temple.edu

SOURCE: Journal of clinical periodontology, (2003 Aug) Vol. 30, No. 8, pp. 715-25. Journal code: 0425123. ISSN: 0303-6979.

PUB. COUNTRY: Denmark

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Dental Journals; Priority Journals

ENTRY MONTH: 200310

ENTRY DATE: Entered STN: 28 Aug 2003
Last Updated on STN: 28 Oct 2003
Entered Medline: 27 Oct 2003

AB BACKGROUND: Recombinant human bone morphogenetic protein-2 (rhBMP-2) technologies have been shown to enhance alveolar bone formation

significantly. Biomaterial (carrier) limitations, however, have restricted their biologic potential for indications where compressive forces may limit the volume of bone formed. The objective of this proof-of-principle study was to evaluate the potential of a space-providing, macroporous ePTFE device to define rhBMP-2-induced alveolar bone formation using a discriminating onlay defect model. METHODS: Routine, critical size, 5-6 mm, supra-alveolar, periodontal defects were created around the third and fourth mandibular premolar teeth in four young adult Hound Labrador mongrel dogs. All jaw quadrants received rhBMP-2 (0.4 mg) in an absorbable collagen sponge (ACS) carrier. Contralateral jaw quadrants in subsequent animals were randomly assigned to receive additionally the dome-shaped, macroporous ePTFE device over the rhBMP-2/ACS implant or no additional treatment. The gingival flaps were advanced to cover the ePTFE device and teeth, and sutured. Animals were scheduled for euthanasia to provide for histologic observations of healing at 8 weeks postsurgery. RESULTS: Healing was uneventful without device exposures. New bone formation averaged (+/-SD) 4.7+/-0.2 mm (98%) and 4.5+/-0.4 mm (94%) of the defect height, respectively, for jaw quadrants receiving rhBMP-2/ACS with the ePTFE device or rhBMP-2/ACS alone ($p>0.05$). In contrast, the regenerated bone area was significantly enhanced in jaw quadrants receiving rhBMP-2/ACS with the ePTFE device compared to rhBMP-2/ACS alone (9.3+/-2.7 versus 5.1+/-1.1 mm2; $p<0.05$). Cementum formation was similar for both treatment groups. Ankylosis compromised periodontal regeneration in all sites. CONCLUSIONS: The results suggest that the novel space-providing, macroporous ePTFE device appears suitable as a template to define rhBMP-2/ACS-induced alveolar bone formation.

L7 ANSWER 6 OF 49 MEDLINE on STN
ACCESSION NUMBER: 2003401194 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12887339
TITLE: Periodontal repair in dogs: rhBMP-2 significantly enhances bone formation under provisions for guided tissue regeneration.
AUTHOR: Wikesjo Ulf M E; Xiropaidis Andreas V; Thomson Robert C; Cook Alonzo D; Selvig Knut A; Hardwick W Ross
CORPORATE SOURCE: Laboratory for Applied Periodontal and Craniofacial Regeneration, Department of Periodontology, Temple University School of Dentistry, Philadelphia, PA 19140, USA.. ulf.wikesjo@temple.edu
SOURCE: Journal of clinical periodontology, (2003 Aug) Vol. 30, No. 8, pp. 705-14.
Journal code: 0425123. ISSN: 0303-6979.
PUB. COUNTRY: Denmark
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Dental Journals; Priority Journals
ENTRY MONTH: 200310
ENTRY DATE: Entered STN: 28 Aug 2003
Last Updated on STN: 28 Oct 2003
Entered Medline: 27 Oct 2003

AB BACKGROUND: Recombinant human bone morphogenetic protein-2 (rhBMP-2) has been shown to support the regeneration of alveolar bone and periodontal attachment in surgically created periodontal defects and in defects with a history of dental plaque and calculus exposure. Periodontal regeneration has also been shown following guided tissue regeneration using space-providing expanded polytetrafluoroethylene (ePTFE) devices. The objective of this study was to evaluate the influence of rhBMP-2 on regeneration of alveolar bone and periodontal attachment used in conjunction with a space-providing ePTFE device.

METHODS: Routine, critical-size, 5-6 mm, supra-alveolar, periodontal defects were created around the third and fourth mandibular premolar teeth in four young adult Hound Labrador mongrel dogs. rhBMP-2 (0.2 mg/ml) in an absorbable collagen sponge (rhBMP-2/ACS) or buffer/ACS (control) implants were randomly assigned to be placed around the premolar teeth in the left and right jaw quadrants in subsequent animals. Space-providing ePTFE devices with 300-microm laser-drilled pores, 0.8 mm apart, were used to cover the rhBMP-2 and control implants. The gingival flaps were advanced for primary wound closure. The animals were euthanized at 8 weeks postsurgery for histologic and histometric analyses. RESULTS: Bone regeneration and ankylosis were significantly increased in jaw quadrants receiving rhBMP-2/ACS compared to control (bone height 4.8+/-0.3 versus 2.0+/-0.2 mm, p=0.001; bone area 10.9+/-1.3 versus 1.4+/-0.1 mm2; p=0.009, and ankylosis 2.2+/-0.2 versus 0.04+/-0.7 mm; p=0.01). No differences between groups were found for cementum regeneration and root resorption. CONCLUSIONS: rhBMP-2 significantly enhances regeneration of alveolar bone in conjunction with a space-providing, macroporous ePTFE device for GTR.

L7 ANSWER 7 OF 49 MEDLINE on STN
ACCESSION NUMBER: 2003288766 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12816296
TITLE: Periodontal repair in dogs: evaluation of a bioabsorbable space-providing macroporous membrane with recombinant human bone morphogenetic protein-2.
AUTHOR: Wikesjo Ulf M E; Lim Won Hee; Thomson Robert C; Cook Alonzo D; Wozney John M; Hardwick W Ross
CORPORATE SOURCE: Laboratory for Applied Periodontal and Craniofacial Regeneration, Temple University School of Dentistry, Philadelphia, PA 19140, USA.. uwikesjo@temple.edu
SOURCE: Journal of periodontology, (2003 May) Vol. 74, No. 5, pp. 635-47.
Journal code: 8000345. ISSN: 0022-3492.
PUB. COUNTRY: United States
DOCUMENT TYPE: (COMPARATIVE STUDY)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Dental Journals; Priority Journals
ENTRY MONTH: 200309
ENTRY DATE: Entered STN: 21 Jun 2003
Last Updated on STN: 6 Sep 2003
Entered Medline: 5 Sep 2003

AB BACKGROUND: Recombinant human bone morphogenetic protein-2 (rhBMP-2) technologies have been shown to significantly support alveolar bone formation. Biomaterial limitations, however, have restricted the biologic potential for onlay indications. The objective of this study was to evaluate regeneration of alveolar bone and periodontal attachment, and biomaterials reaction following surgical implantation of a space-providing, bioabsorbable, macroporous, polyglycolic acid-trimethylene carbonate (PGA-TMC) membrane combined with a rhBMP-2 construct in a discriminating onlay defect model. METHODS: Routine supraalveolar periodontal defects were created at the mandibular premolar teeth in 9 beagle dogs. Contralateral jaw quadrants in subsequent animals were randomly assigned to receive the dome-shaped PGA-TMC (100 to 120 microm pores) membrane with rhBMP-2 (0.2 mg/mL) in a bioresorbable hyaluronan (Hy) carrier or the PGA-TMC membrane with Hy alone (control). The gingival flaps were advanced to submerge the membranes and teeth and sutured. Animals were euthanized at 8 and 24 weeks postsurgery for histologic observations. RESULTS: Jaw quadrants receiving the PGA-TMC membrane alone experienced exposures at various time points throughout the study. Jaw quadrants receiving the PGA-TMC/rhBMP-2

combination remained intact, although one site experienced a late minor exposure. Newly formed alveolar bone approached and became incorporated into the macroporous PGA-TMC membrane in sites receiving rhBMP-2. The PGA-TMC biomaterial was occasionally associated with a limited inflammatory reaction. Residual PGA-TMC could not be observed at 24 weeks postsurgery. Residual Hy could not be observed at any time interval. Regeneration of alveolar bone height (means +/- SD) was significantly increased in sites receiving the PGA-TMC/rhBMP 2 combination compared to control (3.8 +/- 1.3 versus 0.7 +/- 0.5 mm at 8 weeks and 4.6 +/- 0.8 versus 2.1 +/- 0.4 mm at 24 weeks; P < 0.05). Limited cementum regeneration was observed for PGA-TMC/rhBMP-2 and PGA-TMC control sites. Ankylosis compromised regeneration in sites receiving PGA-TMC/rhBMP-2. CONCLUSIONS: The bioabsorbable, space-providing, macroporous PGA-TMC membrane appears to be a compatible biomaterial for bone augmentation procedures. rhBMP-2 significantly enhances alveolar bone augmentation and soft tissue healing when combined with the PGA-TMC membrane.

L7 ANSWER 8 OF 49 MEDLINE on STN
ACCESSION NUMBER: 2003489589 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12969359
TITLE: Effect of rhBMP-2 on guided bone regeneration in humans.
AUTHOR: Jung Ronald E; Glauser Roland; Scharer Peter; Hammerle Christoph H F; Sailer Hermann F; Weber Franz E
CORPORATE SOURCE: Department of Fixed and Removable Prosthodontics and Dental Material Science, University of Zurich, Switzerland.. jung@zzmk.unizh.ch
SOURCE: Clinical oral implants research, (2003 Oct) Vol. 14, No. 5, pp. 556-68.
Journal code: 9105713. ISSN: 0905-7161.
PUB. COUNTRY: Denmark
DOCUMENT TYPE: (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
(RANDOMIZED CONTROLLED TRIAL)
LANGUAGE: English
FILE SEGMENT: Dental Journals
ENTRY MONTH: 200312
ENTRY DATE: Entered STN: 22 Oct 2003
Last Updated on STN: 19 Dec 2003
Entered Medline: 1 Dec 2003

AB The aim of the present clinical study was to test whether or not the addition of recombinant human bone morphogenetic protein-2 (rhBMP-2) to a xenogenic bone substitute mineral (Bio-Oss) will improve guided bone regeneration therapy regarding bone volume, density and maturation. In 11 partially edentulous patients, 34 Branemark implants were placed at two different sites in the same jaw (five maxillae, six mandibles) requiring lateral ridge augmentation. The bone defects were randomly assigned to test and control treatments: the test and the control defects were both augmented with the xenogenic bone substitute and a resorbable collagen membrane (Bio-Gide). At the test sites, the xenogenic bone substitute mineral was coated with rhBMP-2 in a lyophilization process. Following implant insertion (baseline), the peri-implant bone defect height was measured from the implant shoulder to the first implant-bone contact. After an average healing period of 6 months (SD 0.17, range 5.7-6.2), the residual defects were again measured and trephine burs were used to take 22 bone biopsies from the augmented regions. The healing period was uneventful except for one implant site that showed a wound dehiscence, which spontaneously closed after 4 weeks. Later at reentry, all implants were stable. At baseline, the mean defect height was 7.0 mm (SD 2.67, range 3-12 mm) at test and 5.8 mm (SD 1.81, range 3-8

mm) at control sites. At reentry, the mean defect height decreased to 0.2 mm (SD 0.35, range 0-1 mm) at test sites (corresponding to 96% vertical defect fill) and to 0.4 mm (SD 0.66, range 0-2 mm) at the control site (vertical defect fill of 91%). Reduction in defect height from baseline to reentry for both test and control sites was statistically significant (Wilcoxon P<0.01). Histomorphometric analysis showed an average area density of 37% (SD 11.2, range 23-51%) newly formed bone at test sites and 30% (SD 8.9, range 18-43%) at control sites. The fraction of mineralized bone identified as mature lamellar bone amounted to 76% (SD 14.4, range 47.8-94%) at test compared to 56% (SD 18.3, range 31.6-91.4%) at control sites (paired t-test P<0.05). At BMP-treated sites 57% (SD 16.2, range 29-81%) and at control sites 30% (SD 22.6, range 0-66%) of the surface of the bone substitute particles were in direct contact with newly formed bone (paired t-test P<0.05). It is concluded that the combination of the xenogenic bone substitute mineral with rhBMP-2 can enhance the maturation process of bone regeneration and can increase the graft to bone contact in humans. rhBMP-2 has the potential to predictably improve and accelerate guided bone regeneration therapy.

L7 ANSWER 9 OF 49 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2003:594054 CAPLUS
DOCUMENT NUMBER: 139:333546
TITLE: In vitro evaluation of the mitogenic effect of platelet-derived growth factor-BB on human periodontal ligament cells cultured with various bone allografts
AUTHOR(S): Papadopoulos, C. E.; Dereka, X. E.; Vavouraki, E. N.; Vrotsos, I. A.
CORPORATE SOURCE: Department of Periodontology, University of Athens Dental School, Athens, Greece
SOURCE: Journal of Periodontology (2003), 74(4), 451-457
CODEN: JOPRAJ; ISSN: 0022-3492
PUBLISHER: American Academy of Periodontology
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Several studies have documented the role of growth factors in periodontal regeneration. It has been shown that platelet-derived growth factor (PDGF) is a potent stimulator of human periodontal ligament (PDL) cells. A variety of bone graft materials are used to treat osseous defects caused by periodontal disease. The authors evaluated the mitogenic effect of PDGF on human PDL cells cultured with different allografts to determine which of the allografts with or without PDGF promoted periodontal regeneration. Two human demineralized freeze-dried allografts of cortical (DFDBA) and cancellous (DFBA) bone and a non-demineralized freeze-dried allograft (FBA) from cancellous bone were used alone or supplemented with PDGF-BB. Human PDL cultures were derived from the mid-root of 2 maxillary premolars extracted for orthodontic reasons. Cells were grown sep. in 24-well dishes with or without 20 mg of each bone allograft. On day 2 of quiescence, new medium was added with 10 ng/mL of PDGF-BB. DNA synthesis was estimated by measuring [3H] thymidine incorporation to determine the effects of the test agents on cell proliferation. Cells were processed and subjected to scintillation counting after 48 h of incubation. Counts per min (cpm/well) were determined for each sample. There was no statistically significant difference on PDL cell proliferation when the allografts were used alone. PDL cells exhibited significantly greater proliferative responses to the 2 demineralized bone allografts, DFDBA and DFBA, when combined with PDGF-BB. A statistically significant difference on DNA synthesis was noticed when PDGF-BB was added to PDL cells cultured with FBA. PDL cells displayed no significant increase in mitogenic activity when cultured with PDGF-BB

alone. Findings of this study demonstrate the beneficial role of DFDBA, DFBA, and FBA as synergic agents with PDGF-BB to periodontal regeneration. The significant ability of the 2 decalcified bone allografts, DFDBA and DFBA, combined with PDGF to stimulate PDL cell proliferation might be a useful adjunct in the treatment of periodontal defects.

REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 10 OF 49 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2003:379672 CAPLUS
DOCUMENT NUMBER: 140:31211
TITLE: Regeneration of periodontal tissues based on in situ tissue engineering
AUTHOR(S): Nakahara, Taka; Nakamura, Tatsuo; Tabata, Yasuhiko; Eto, Kazuhiro; Shimizu, Yasuhiko
CORPORATE SOURCE: Section of Molecular Craniofacial Embryology, Graduate School, Tokyo Medical and Dental University, Japan
SOURCE: Ensho, Saisei (2003), 23(2), 116-121
CODEN: ENSHCC
PUBLISHER: Nippon Ensho-Saisei Igakkai
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Japanese
AB A review. The strategy for tissue regeneration is to induce maximum intrinsic healing potential at the site of a tissue defect, applying the elements of tissue engineering. Regeneration of periodontal tissues occurs through the combined application of a collagen sponge scaffold and gelatin microspheres incorporating basic fibroblast growth factor (bFGF) for controlled-release. This sandwich membrane with or without bFGF (100 μg) was applied to a three-walled alveolar bone defect (3+4+4 mm) in nine dogs. Periodontal tissues, both hard and soft, treated with bFGF were effectively regenerated four weeks after the operation with functional recovery of the periodontal ligament in parts. Next, the effect of combining cells with the treatment was evaluated. Periodontal fenestration defects (6+4 mm) were created bilaterally in the maxillary canines of six dogs. One of these was filled with the collagen sponge scaffold seeded with autologous periodontal ligament-derived cells (3 + 105), and the other was left empty. After four weeks, on the cell-seeded side, regeneration of the cementum was observed uniformly on the root surfaces, indicating that the seeded cells had formed new cementum. Our findings suggest a promising new approach to periodontal regeneration that is based upon in situ tissue engineering.

L7 ANSWER 11 OF 49 MEDLINE on STN
ACCESSION NUMBER: 2003476738 MEDLINE
DOCUMENT NUMBER: PubMed ID: 14536046
TITLE: Space-providing expanded polytetrafluoroethylene devices define alveolar augmentation at dental implants induced by recombinant human bone morphogenetic protein 2 in an absorbable collagen sponge carrier.
AUTHOR: Wikesjo Ulf M E; Qahash Mohammed; Thomson Robert C; Cook Alonzo D; Rohrer Michael D; Wozney John M; Hardwick W Ross
CORPORATE SOURCE: Department of Periodontology, Temple University School of Dentistry, Philadelphia, PA 19140, USA.. uwikesjo@temple.edu
SOURCE: Clinical implant dentistry and related research, (2003) Vol. 5, No. 2, pp. 112-23.
Journal code: 100888977. ISSN: 1523-0899.

PUB. COUNTRY: Canada
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Dental Journals; Priority Journals
ENTRY MONTH: 200312
ENTRY DATE: Entered STN: 15 Oct 2003
Last Updated on STN: 19 Dec 2003
Entered Medline: 10 Dec 2003

AB BACKGROUND: Surgical implantation of recombinant human bone morphogenetic protein 2 (rhBMP-2) in an absorbable collagen sponge carrier (ACS) significantly enhances bone regeneration in horizontal alveolar defects; however, sufficient quantities of bone for implant dentistry are not routinely obtained. PURPOSE: The objective of this proof-of-principle study was to evaluate the potential of a space-providing macroporous expanded polytetrafluoroethylene (ePTFE) device to control volume and geometry of rhBMP-2/ACS-induced alveolar bone augmentation. MATERIALS AND METHODS: Bilateral critical-size supra-alveolar periimplant defects were created in four Hound-Labrador mongrel dogs. Two turned and one surface-etched 10 mm titanium dental implants were placed 5 mm into the surgically reduced alveolar ridge creating 5 mm supra-alveolar defects. rhBMP-2/ACS (0.4 mg rhBMP-2) was placed around the exposed dental implants. Additionally, one jaw quadrant in each animal was randomly assigned to receive the dome-shaped macroporous ePTFE device. Mucoperiosteal flaps were advanced for primary wound closure. The animals were euthanized at 8 weeks post surgery for histometric analysis. RESULTS: The space-providing macroporous ePTFE device defined the volume and geometry of rhBMP-2/ACS-induced bone formation, whereas bone formation at sites receiving rhBMP-2/ACS alone varied considerably. Vertical bone gain at turned dental implants averaged (+/-SD) 4.7 +/-0.2 mm at sites receiving rhBMP-2/ACS and the ePTFE device compared with 3.5 +/-0.9 mm at sites receiving rhBMP-2/ACS only. The corresponding values for rhBMP-2/ACS-induced bone area were 9.6 +/- 0.7 mm2 and 7.5 +/-6.2 mm2. There was a highly significant correlation between induced bone area and the space provided by the ePTFE device (p <.001). There was no difference in induced bone density or bone-implant contact between the two technologies. These observations were consistent with those observed at surface-etched dental implants. CONCLUSIONS: The data from this study suggest that a space-providing macroporous ePTFE device defines rhBMP-2/ACS-induced alveolar augmentation to provide adequate bone quantities for implant dentistry. The dental implant surface technology does not appear to substantially influence bone formation.

L7 ANSWER 12 OF 49 MEDLINE on STN
ACCESSION NUMBER: 2003096207 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12608674
TITLE: Is platelet-rich plasma the perfect enhancement factor? A current review.
AUTHOR: Sanchez Andres R; Sheridan Phillip J; Kupp Leo I
CORPORATE SOURCE: Section of Periodontics, Department of Dental Specialties, Mayo Clinic, Rochester, Minnesota 55905, USA.. sanchez.andres@mayo.edu
SOURCE: The International journal of oral & maxillofacial implants, (2003 Jan-Feb) Vol. 18, No. 1, pp. 93-103.
Journal code: 8611905. ISSN: 0882-2786.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (META-ANALYSIS)
LANGUAGE: English
FILE SEGMENT: Dental Journals; Priority Journals
ENTRY MONTH: 200306

ENTRY DATE: Entered STN: 2 Mar 2003
Last Updated on STN: 11 Jun 2003
Entered Medline: 10 Jun 2003

AB Guided bone regeneration is an accepted surgical method employed in implant dentistry to increase the quantity and quality of the host bone in areas of localized alveolar defects. The lack of predictability in osseous regenerative procedures with various grafting materials suggests that improvement in the osteoinductive properties of these materials is highly desirable. Platelet-rich plasma (PRP), a modification of fibrin glue made from autologous blood, is being used to deliver growth factors in high concentration to sites requiring osseous grafting. Growth factors released from the platelets include platelet-derived growth factor, transforming growth factor beta, platelet-derived epidermal growth factor, platelet-derived angiogenesis factor, insulin-like growth factor 1, and platelet factor 4. These factors signal the local mesenchymal and epithelial cells to migrate, divide, and increase collagen and matrix synthesis. PRP has been suggested for use to increase the rate of bone deposition and quality of bone regeneration when augmenting sites prior to or in conjunction with dental implant placement Only 6 human studies using PRP have been found in the dental implant literature and 5 were case series or reports. Thus, there is clearly a lack of scientific evidence to support the use of PRP in combination with bone grafts during augmentation procedures. This novel and potentially promising technique requires well-designed, controlled studies to provide evidence of efficacy.

L7 ANSWER 13 OF 49 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2003:852003 CAPLUS
DOCUMENT NUMBER: 141:12182
TITLE: Ability of a bovine bone graft, alone or enriched with PDGF-BB or rhBMP-2, to promote human periodontal ligament (PDL) cells proliferation. A preliminary study
AUTHOR(S): Vavouraki, H. N.; Dereka, X. E.; Vrotsos, I. A.; Markopoulou, C. E.
CORPORATE SOURCE: Department of Biology, Human Tissue Bank of NCSR Demokritos', Attiki, 15310, Greece
SOURCE: Cell and Tissue Banking (2003), 4(1), 17-23
CODEN: CTBAFV; ISSN: 1389-9333
PUBLISHER: Kluwer Academic Publishers
DOCUMENT TYPE: Journal
LANGUAGE: English

AB One of the most important goals of the periodontal therapy procedures is to stimulate the formation of new bone into osseous defects resulted from periodontal disease. A wide range of grafting materials is used to achieve this aim. Recently, the Human Tissue Bank of the National Center for Scientific Research Demokritos' in Athens (Greece) has prepared, in a preliminary study, a cancellous bovine-derived bone matrix (BBM). The purpose of the present work was to investigate the role of this bovine bone material in the periodontal regeneration, by studying the rate of human periodontal ligament (PDL) cells proliferation in the presence of this matrix alone, or after the addition of the growth factors, platelet-derived growth factor-BB (PDGF-BB) or recombinant human bone morphogenetic protein-2 (rhBMP-2). Bovine bone graft was prepared using the know how' acquired by the 30 yr continuous preparation and delivery of lyophilized human bone grafts by the Demokritos' Bank. PDL cells cultures were derived from the mid root of 2 maxillary premolars. The teeth were caries-free and were extracted for orthodontic reasons from 1 adult female patient. Cells were grown in 24-well dishes

in the presence of 20 mg BBM. On day 2 of quiescence, new medium was added with 10 ng/mL of PDGF-BB or 50 ng/mL of rhBMP-2. To determine the effects of the test agents on cell proliferation, DNA synthesis was estimated by measuring [3H] thymidine incorporation. After 48 h of incubation the cells were processed to subject to scintillation counting. Counts per min (cpm/well) were determined for each sample. The results revealed that this BBM has the ability to maintain PDL cells proliferation and could be used as an alternative graft material. PDGF-BB when added improved the cell proliferative response resulting in a more active BBM, while the presence of rhBMP-2 did not support cell mitosis.

REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 14 OF 49 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2002:113820 CAPLUS
DOCUMENT NUMBER: 136:172831
TITLE: Periodontium regeneration material containing atelocollagens
INVENTOR(S): Hasegawa, Yoko; Kamoi, Hisahiro; Yamai, Yuka; Nezu, Masahiko; Nishida, Atsushi; Sugamata, Kaori; Wasaki, Yoshiko; Sato, Satoshi; Kamoi, Hisakazu; Sakata, Shinichiro
PATENT ASSIGNEE(S): Terumo Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002047204	A	20020212	JP 2000-227033	20000727 <--

PRIORITY APPLN. INFO.: JP 2000-227033 20000727

AB This invention relates to a material for regeneration of periodontium, which comprises a cell-penetrating dehydrothermally crosslinked atelocollagen matrix. A dehydrothermally crosslinked sponge containing platelet-derived factors was prepared from fibered atelocollagen, modified atelocollagen, and platelet-derived factors obtained from beagle dogs. Then, the sponge was implanted to a periodontal bone defect site in a beagle dog to examine the new bone and cementum formation after the implantation.

L7 ANSWER 15 OF 49 MEDLINE on STN
ACCESSION NUMBER: 2003037899 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12546100
TITLE: Effect of surgical implantation of recombinant human bone morphogenetic protein-2 in a bioabsorbable collagen sponge or calcium phosphate putty carrier in intrabony periodontal defects in the baboon.
AUTHOR: Blumenthal Neil M; Koh-Kunst Grace; Alves Mario E A F; Miranda Dario; Sorensen Rachel G; Wozney John M; Wikesjo Ulf M E
CORPORATE SOURCE: Department of Periodontology, University of Illinois at Chicago, College of Dentistry, Chicago, IL 60612-7212, USA.
SOURCE: Journal of periodontology, (2002 Dec) Vol. 73, No. 12, pp. 1494-506.
Journal code: 8000345. ISSN: 0022-3492.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English

FILE SEGMENT: Dental Journals; Priority Journals
ENTRY MONTH: 200304
ENTRY DATE: Entered STN: 28 Jan 2003
Last Updated on STN: 17 Apr 2003
Entered Medline: 15 Apr 2003

AB BACKGROUND: Recombinant human bone morphogenetic protein-2 (rhBMP-2) in a proper carrier has been shown to induce clinically relevant bone formation for several oral/maxillofacial and periodontal indications and to stimulate regeneration of the periodontal attachment. The objective of this study is to evaluate regeneration of alveolar bone, cementum, periodontal ligament, and associated root resorption and ankylosis following surgical implantation of rhBMP-2 in an absorbable collagen sponge (ACS) or a calcium phosphate putty (alphaBSM) carrier in 3-wall intrabony periodontal defects in the baboon. METHODS: rhBMP-2/ACS and rhBMP-2/alphaBSM were implanted in surgically produced, maxillary and mandibular, large size, 3-wall intrabony defects in 4 baboons. Contralateral jaw quadrants were implanted with buffer/ACS, buffer/ alphaBSM, or served as sham-operated surgical controls. Treatments were allocated to left and right, maxillary and mandibular, jaw quadrants following a randomization schedule. Four months following implantation, block biopsies of defect sites were obtained, processed, and subjected to histologic and histometric analysis. RESULTS: Defect sites receiving rhBMP-2/ACS and rhBMP-2/alphaBSM demonstrated significantly greater regeneration than controls. No significant differences were observed between defect sites receiving rhBMP-2/ACS or rhBMP-2/alphaBSM regarding epithelial migration and connective tissue attachment and new bone formation. However, rhBMP-2/ACS supported significantly greater new cementum formation. Ankylosis or root resorption were not observed. CONCLUSIONS: The results of this study support the use of rhBMP-2 to enhance periodontal regeneration of intrabony periodontal defects. While this novel technology holds promise, refinement in carrier systems may provide the key to enhancement of the regenerative potential.

L7 ANSWER 16 OF 49 MEDLINE on STN
ACCESSION NUMBER: 2002485991 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12296587
TITLE: Bone repair following recombinant human bone morphogenetic protein-2 stimulated periodontal regeneration.
AUTHOR: Selvig Knut A; Sorensen Rachel G; Wozney John M; Wikesjo Ulf M E
CORPORATE SOURCE: Department of Dental Research, University of Bergen, Faculty of Dentistry, Norway.. knut.selvig@odont.uib.no
SOURCE: Journal of periodontology, (2002 Sep) Vol. 73, No. 9, pp. 1020-9.
Journal code: 8000345. ISSN: 0022-3492.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Dental Journals; Priority Journals
ENTRY MONTH: 200211
ENTRY DATE: Entered STN: 26 Sep 2002
Last Updated on STN: 14 Dec 2002
Entered Medline: 26 Nov 2002

AB BACKGROUND: Recombinant human bone morphogenetic protein-2 (rhBMP-2) in an absorbable sponge (ACS) carrier is currently being evaluated as candidate therapy for periodontal regeneration. The objective of this study was to characterize, in some detail, tissue reactions following surgical implantation of rhBMP-2/ACS into periodontal

defects. METHODS: Four young adult, male beagle dogs with surgically induced, bilateral, critical size, supra-alveolar, mandibular premolar defects sequentially received rhBMP-2/ACS (rhBMP-2 at 0.2 mg/ml) in right and left jaw quadrants. After 4 or 8 weeks of healing, experimental teeth with surrounding tissues were harvested and processed for light and transmission electron microscopy. RESULTS: Surgical implantation of rhBMP-2/ACS into large supra-alveolar periodontal defects resulted in a variable tissue response without marked difference between 4- and 8-week observations. New bone, exceeding the volume of the normal alveolar process, had formed within 4 weeks. The regenerated bone tissue consisted of finely trabeculated woven bone. Marrow spaces exhibited a continuous lining of osteoblasts, osteoclasts, and resting cells. The marrow spaces contained numerous large, thin-walled vessels but were almost devoid of collagen fibrils or fibroblasts. Large voids (seromas) encountered in the newly formed bone were free of structured elements except for occasional aggregates of effete erythrocytes. A variety of tissue reactions were observed along the root surface including areas of resorption, areas of hard tissue deposition, and areas without resorptive or appositional activity. Ankylosis was a frequent observation, although areas showing characteristics of a periodontal ligament with a fine layer of acellular fiber cementum and occasional inserting Sharpey's fibers were also observed. Osteoblasts facing the root surface often appeared to be in a highly active state judged by their cuboidal shape, well-developed endoplasmic reticulum and numerous mitochondria, and the presence of an adjacent layer of preosteoblasts. Conspicuous bundles of wide collagen fibrils near the dentin surface as well as within the marrow spaces were considered to represent remnants of the ACS. These fibrils were associated with areas of mineralization as verified by examination of undecalcified specimens. CONCLUSIONS: rhBMP-2/ACS elicits a rapid osteoinductive process throughout the implant as well as along and onto the instrumented adjacent root surface. Lamellated trabecular bone was the predominant regenerated tissue. A typical cementum-periodontal ligament-alveolar bone relationship was a rare observation. The great variability in histological tissue response along the instrumented root surface indicates that the stimulus to hard tissue formation resided primarily in the rhBMP-2/ACS implant rather than in the root surface.

L7 ANSWER 17 OF 49 MEDLINE on STN
ACCESSION NUMBER: 2002732697 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12494705
TITLE: [Guided bone augmentation in edentulous areas]. Geleide weefselregeneratie in edentate gebieden.
AUTHOR: Marechal M
CORPORATE SOURCE: Afdeling Parodontologie van de School voor Tandheelkunde, Mondziekten en Kaakchirurgie, faculteit Geneeskunde, van de Katholieke Universiteit Leuven, Belgie.. Marina.Marechal@med.kuleu-ven.ac.be
SOURCE: Nederlands tijdschrift voor tandheelkunde, (2002 Nov) Vol. 109, No. 11, pp. 439-43. Ref: 29
Journal code: 0400771. ISSN: 0028-2200.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: (ENGLISH ABSTRACT)
Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: Dutch
FILE SEGMENT: Dental Journals
ENTRY MONTH: 200303
ENTRY DATE: Entered STN: 27 Dec 2002
Last Updated on STN: 5 Mar 2003

Entered Medline: 4 Mar 2003

AB The use of autogenous onlay blocks placed together with self-tapping implants can achieve an excellent long-term success rate of individual implants. Autogenous bone chips or deproteinized bovine bone can be used to deal with fenestration and dehiscence defects when used in combination with e-PTFE membranes. The role of DFDBA as space maintainer under barrier membranes cannot be ignored. In most cases PTFE membranes are used because they offer reliable results. The use of a collagen membrane when supported by a bone substitute to maintain space gives good results, although long-term research is required. The future will be however tissue engineering. The principle is that a matrix, carrying stem cells and biological mediators like growth factors, is used. More research involves the use of human stem cells responsible for regeneration of different human tissues.

L7 ANSWER 18 OF 49 MEDLINE on STN
ACCESSION NUMBER: 2002118716 MEDLINE
DOCUMENT NUMBER: PubMed ID: 11852905
TITLE: Effect of recombinant human bone morphogenetic protein-2/absorbable collagen sponge (rhBMP-2/ACS) on healing in 3-wall intrabony defects in dogs.
AUTHOR: Choi Seong-Ho; Kim Chong-Kwan; Cho Kyoo-Sung; Huh Ji-Sun; Sorensen Rachel G; Wozney John M; Wikesjo Ulf M E
CORPORATE SOURCE: Department of Periodontology, Research Institute for Periodontal Regeneration, College of Dentistry, Yonsei University, Seoul.
SOURCE: Journal of periodontology, (2002 Jan) Vol. 73, No. 1, pp. 63-72.
Journal code: 8000345. ISSN: 0022-3492.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Dental Journals; Priority Journals
ENTRY MONTH: 200205
ENTRY DATE: Entered STN: 21 Feb 2002
Last Updated on STN: 22 May 2002
Entered Medline: 21 May 2002

AB BACKGROUND: Recombinant human bone morphogenetic protein-2 (rhBMP-2) in an absorbable collagen sponge (ACS) carrier is being evaluated as a candidate therapy for periodontal regeneration. The objective of this study was to evaluate regeneration of alveolar bone and cementum, and associated root resorption and ankylosis following surgical implantation of rhBMP-2/ACS in a canine clinical model. METHODS: Bilateral 3-wall intrabony periodontal defects were surgically induced in the premolar region in the maxilla and mandible in 8 young adult Korean mongrel dogs. The defects in each animal received rhBMP-2/ACS (rhBMP-2 at 0.2 mg/ml, total implant volume/defect approximately 0.1 ml) or buffer/ACS, or served as sham-operated controls. Surgeries were sequenced for each animal to provide postmortem observations following 8- and 24-week healing intervals. Treatment outcomes were evaluated using clinical, radiographic, and histometric parameters. RESULTS: Surgical implantation of rhBMP-2/ACS resulted in accelerated enhanced bone formation in the 3-wall intrabony periodontal defects but in no apparent enhancement of cementum regeneration. rhBMP-2/ACS did not appear to be associated with aberrant healing events such as root resorption and ankylosis under these simulated clinical conditions. CONCLUSIONS: Surgical implantation of rhBMP-2/ACS may be used safely to support regeneration of alveolar bone in intrabony periodontal defects in dogs without aberrant events such as root resorption or ankylosis complicating the regenerative procedure. rhBMP-2/ACS does not appear to have a significant effect on

cementum regeneration and formation of a functional periodontal ligament in this model.

L7 ANSWER 19 OF 49 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2001:247496 CAPLUS
DOCUMENT NUMBER: 134:300840
TITLE: Compositions and therapeutic methods using morphogenic proteins and stimulatory factors
INVENTOR(S): Lee, John C.; Yeh, Lee-Chuan C.
PATENT ASSIGNEE(S): Stryker Corporation, USA
SOURCE: PCT Int. Appl., 63 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001023563	A2	20010405	WO 2000-US26528	20000927 <--
WO 2001023563	A3	20011004		
W: AU, CA, JP				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2385887	A1	20010405	CA 2000-2385887	20000927 <--
EP 1220909	A2	20020710	EP 2000-965478	20000927 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
JP 2003510338	T	20030318	JP 2001-526945	20000927 <--
US 6696410	B1	20040224	US 2000-672224	20000927
AU 773990	B2	20040610	AU 2000-76191	20000927
US 20040138128	A1	20040715	US 2004-753916	20040107
US 20070191276	A1	20070816	US 2007-653144	20070111

PRIORITY APPLN. INFO.:		
US 1999-156261P	P	19990927
US 2000-672224	A3	20000927
WO 2000-US26528	W	20000927
US 2004-753916	B1	20040107

AB The present invention provides pharmaceutical compns. comprising a morphogenic protein stimulatory factor (MPSF) for improving the tissue-inductive activity of morphogenic proteins, particularly those belonging to the BMP protein family. Methods for improving the tissue inductive activity of a morphogenic protein in a mammal using those compns. are provided. This invention also provides implantable morphogenic devices comprising a morphogenic protein and a MPSF disposed within a carrier, that are capable of inducing tissue formation in allogeneic and xenogeneic implants. Methods for inducing local tissue formation from a progenitor cell in a mammal using those devices are also provided. A method for accelerating allograft repair in a mammal using morphogenic devices is provided. This invention also provides a prosthetic device comprising a prosthesis coated with a morphogenic protein and a MPSF, and a method for promoting in vivo integration of an implantable prosthetic device to enhance the bond strength between the prosthesis and the existing target tissue at the joining site. Methods of treating tissue degenerative conditions in a mammal using the pharmaceutical compns. are also provided.
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 20 OF 49 MEDLINE on STN
ACCESSION NUMBER: 2002126861 MEDLINE
DOCUMENT NUMBER: PubMed ID: 11862923
TITLE: Bone grafts and growth and differentiation factors for

regenerative therapy: a review.
AUTHOR: Rose L F; Rosenberg E
CORPORATE SOURCE: University of Pennsylvania School of Dental Medicine, MCP/Hahnemann School of Medicine, Philadelphia, Pennsylvania, USA.
SOURCE: Practical procedures & aesthetic dentistry : PPAD, (2001 Nov-Dec) Vol. 13, No. 9, pp. 725-34; quiz 736, 721-2. Ref: 44
Journal code: 101089932. ISSN: 1534-6846.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Dental Journals
ENTRY MONTH: 200204
ENTRY DATE: Entered STN: 27 Feb 2002
Last Updated on STN: 13 Apr 2002
Entered Medline: 12 Apr 2002
AB Guided bone regeneration, tissue grafts, regenerative barrier membranes, and bone substitute materials have been used to restore inadequate hard and soft tissue structures to make them conducive to proper implant placement. Polypeptide growth and development factors (GDFs) have successfully been applied exogenously to periodontal defects to attract preosteoblasts to the site and accelerate their proliferation to stimulate angiogenesis. This article provides an overview of current modalities for restoring lost bone and soft tissue during the treatment of periodontal disease.

L7 ANSWER 21 OF 49 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
ACCESSION NUMBER: 2002:70274 BIOSIS
DOCUMENT NUMBER: PREV200200070274
TITLE: A novel collagen-coated hydroxyapatite implants with beta-FGF for regeneration of periodontal tissue.
AUTHOR(S): Shigeno, K. [Reprint author]; Inoue, M. [Reprint author]; Nakamura, T. [Reprint author]; Lynn, A. K. [Reprint author]; Toba, T. [Reprint author]; Fukuda, S. [Reprint author]; Hori, Y. [Reprint author]; Ueda, H. [Reprint author]; Noguchi, T. [Reprint author]; Nakahara, T. [Reprint author]; Kobayashi, E. [Reprint author]; Shimizu, Y. [Reprint author]
CORPORATE SOURCE: Department of Bioartificial Organs, Kyoto University Institute for Frontier Medical Science, Kyoto, Japan
SOURCE: International Journal of Artificial Organs, (August, 2001) Vol. 24, No. 8, pp. 574. print.
Meeting Info.: XXVIII Congress of the European Society for Artificial Organs on Bridging the Interdisciplinarity. Gent, Belgium. September 22-25, 2001.
CODEN: IJAODS. ISSN: 0391-3988.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 16 Jan 2002
Last Updated on STN: 25 Feb 2002

L7 ANSWER 22 OF 49 MEDLINE on STN
ACCESSION NUMBER: 2001220401 MEDLINE
DOCUMENT NUMBER: PubMed ID: 11314890
TITLE: Effects of carrier release kinetics on bone morphogenetic protein-2-induced periodontal regeneration in vivo.

AUTHOR: Talwar R; Di Silvio L; Hughes F J; King G N
CORPORATE SOURCE: Department of Periodontology, St Bartholomew's and the Royal London School of Medicine and Dentistry, University of London, UK.
SOURCE: Journal of clinical periodontology, (2001 Apr) Vol. 28, No. 4, pp. 340-7.
Journal code: 0425123. ISSN: 0303-6979.
PUB. COUNTRY: Denmark
DOCUMENT TYPE: (COMPARATIVE STUDY)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Dental Journals; Priority Journals
ENTRY MONTH: 200108
ENTRY DATE: Entered STN: 13 Aug 2001
Last Updated on STN: 13 Aug 2001
Entered Medline: 9 Aug 2001

AB BACKGROUND: Bone morphogenetic proteins (BMPs) have shown considerable promise as a therapeutic agent to enhance periodontal regeneration although the optimal characteristics of a suitable release system are not known. AIM: The aim of this study was to compare the effects of slow and fast degrading gelatin carriers on BMP-2-induced periodontal healing. METHOD: Recombinant human bone morphogenetic protein-2 (rhBMP-2) was incorporated into gelatin and subsequently differentially cross-linked to produce slow and fast release carrier systems. Release kinetics were confirmed in vitro, by measuring release of 125I-growth hormone from similar gelatin plugs. Effects of BMP were evaluated in surgically created rat periodontal fenestration defects which were processed for histology 10 days post-operatively. The rats were divided into 4 groups and the control defects were treated with either slow or fast degrading gelatin (CONs or CONf respectively), whilst test groups were treated with 1.25 microg rhBMP-2 in the slow or fast degrading gelatin (BMPs or BMPf respectively). RESULTS: BMPf greatly increased bone formation compared with the control (CONf) (1.67 +/- 0.65 versus 0.34 +/- 0.11 x 10(-4) m2), but no significant differences were observed with BMPs and CONs. In contrast, new cementum formation was significantly greater in the BMPs group compared with all other groups ($p<0.05$). CONCLUSION: Release kinetics of BMP may have important effects on the outcome of BMP-induced periodontal regeneration. New bone formation may be affected by rapid-release kinetics although further investigation is necessary to confirm this. In contrast, new cementum formation is promoted by slow release of BMP.

L7 ANSWER 23 OF 49 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2001:547684 CAPLUS
DOCUMENT NUMBER: 135:299046
TITLE: Bone-inducing ability of lyophilized periosteum (dura mater) with rhBMP-2 and TGF-β
AUTHOR(S): Suwa, Fumihiko; Jin, Yan; Liu, Yuan; Tamada, Yoshitaka; Toda, Isumi; Fang, Yi Ru
CORPORATE SOURCE: Department of Anatomy, Osaka Dental University, Osaka, 573-1121, Japan
SOURCE: Journal of Osaka Dental University (2001), 35(1), 51-54
CODEN: JODUA2; ISSN: 0475-2058
PUBLISHER: Osaka Odontological Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Guided tissue regeneration (GTR) and guided bone regeneration (GBR) are often used for treatment of tissue defects. The authors investigated the ability of lyophilized periosteum (Dura Mater: DM) to induce GBR when combined with growth

factors and when used alone. Three types of DM complexes were prepared: DM alone, DM with rhBMP-2, and DM with purified bovine TGF-β. Three expts. were performed: periodontal ligament fibroblasts (PDLs) were co-cultured with the three DM complexes and observed; new-born mice muscle tissues were co-cultured with the three complexes, removed at 5, 7 and 10 days, and the samples embedded in paraffin, cut and stained with hematoxylin eosin (HE); the three complexes were implanted in the thigh muscle pouches of mice, removed at 5, 7 and 10 days, embedded in paraffin, cut and stained with HE. The authors found that in experiment (1) almost all of the cells were dead after 5 days of co-culture. In experiment (2) chondroid tissue was found in the group with rhBMP-2 and bone or a cartilage-like matrix was found in the group with TGF-β. There were no such changes in the group with DM alone. In experiment (3) no bone or cartilage-like tissue/matrix was detected, although densely aggregated inflammatory cells surrounded the implants. The authors concluded that DM may have some cytotoxic effects on the host tissues resulting from immunol. rejection and low histo-compatibility. Immunoreaction of the host tissue to DM may have neg. effects on the ability of DM and DM complexes to regenerate bone.

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 24 OF 49 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2000:628043 CAPLUS
DOCUMENT NUMBER: 133:227859
TITLE: Bioabsorbable, biocompatible polymers for tissue engineering
INVENTOR(S): Williams, Simon F.
PATENT ASSIGNEE(S): Tepha, Inc., USA
SOURCE: PCT Int. Appl., 27 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000051662	A1	20000908	WO 2000-US5676	20000303 <--
W: AU, CA, JP				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2363262	A1	20000908	CA 2000-2363262	20000303 <--
EP 1159015	A1	20011205	EP 2000-916064	20000303 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2002537906	T	20021112	JP 2000-602325	20000303 <--
US 6514515	B1	20030204	US 2000-518123	20000303 <--
EP 1878451	A1	20080116	EP 2007-75819	20000303
R: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
US 20030072784	A1	20030417	US 2002-289479	20021106 <--
US 6746685	B2	20040608		
AU 2004242432	A1	20050120	AU 2004-242432	20041222
AU 2004242432	B2	20070705		

PRIORITY APPLN. INFO.:	US 1999-122827P	P	19990304
	AU 2000-37228	A3	20000303
	EP 2000-916064	A3	20000303
	US 2000-518123	A3	20000303
	WO 2000-US5676	W	20000303

AB Bioabsorbable biocompatible polymers which provide a good match between their properties and those of certain tissue structures are provided. The

bioabsorbable biocompatible polymers can be prepared with tensile strengths, elongation to breaks, and/or tensile modulus (Young's modulus) values of the tissues of the cardiovascular, gastrointestinal, kidney and genitourinary, musculoskeletal, and nervous systems, as well as those of the oral, dental, periodontal, and skin tissues. Methods for processing the bioabsorbable biocompatible polymers into tissues engineering devices are also provided.
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 25 OF 49 MEDLINE on STN
ACCESSION NUMBER: 2000510052 MEDLINE
DOCUMENT NUMBER: PubMed ID: 11063400
TITLE: Alveolar ridge and sinus augmentation utilizing platelet-rich plasma in combination with freeze-dried bone allograft: case series.
AUTHOR: Kassolis J D; Rosen P S; Reynolds M A
CORPORATE SOURCE: Department of Periodontics, University of Maryland, Dental School, Baltimore, USA.
SOURCE: Journal of periodontology, (2000 Oct) Vol. 71, No. 10, pp. 1654-61.
Journal code: 8000345. ISSN: 0022-3492.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Dental Journals; Priority Journals
ENTRY MONTH: 200102
ENTRY DATE: Entered STN: 22 Mar 2001
Last Updated on STN: 22 Mar 2001
Entered Medline: 22 Feb 2001
AB BACKGROUND: Alveolar bone regeneration is frequently necessary prior to placement of implants. Efforts to improve wound healing have focused on factors that may enhance bone formation following guided bone regeneration (GBR) techniques alone or in combination with bone replacement graft materials. Recent reports suggest that platelet-rich plasma (PRP), presumably high in levels of peptide growth factors, may enhance the formation of new bone when used in combination with autogenous graft material. METHODS: In this report, the clinical and radiographic results are presented on 15 consecutively treated patients using autologous PRP in combination with freeze-dried bone allograft (FDBA) for sinus elevation and/or ridge augmentation. FDBA and PRP (0.5 g/2cc PRP) were mixed and placed as a composite graft material. A gel formed by mixing autologous thrombin-rich plasma with PRP (1:4 ratio) was used to cover the graft material. Core biopsies of grafted areas were obtained in several patients as part of implant site preparation and were evaluated histologically to determine site maturation. RESULTS: Of 36 implant fixtures, 32 (89%) were considered clinically successful demonstrating complete bone coverage of the implant, no mobility, and a normal radiographic appearance at the time of re-entry and 12 months post-implant exposure. Four implants were removed due to mobility at the time of surgical exposure. Histologic evaluation of biopsy specimens revealed numerous areas of osteoid and bone formation around FDBA particles, with no evidence of inflammatory cell infiltrate. CONCLUSIONS: These clinical and histological findings suggest that ridge augmentation and sinus grafting with FDBA in combination with PRP provide a viable therapeutic alternative for implant placements. Future studies are necessary to determine whether PRP enhances new bone formation or maturation with bone replacement allografts.

L7 ANSWER 26 OF 49 MEDLINE on STN
ACCESSION NUMBER: 2001074503 MEDLINE

DOCUMENT NUMBER: PubMed ID: 10983604
TITLE: Periodontal repair in dogs: effect of transforming growth factor-beta 1 on alveolar bone and cementum regeneration.
AUTHOR: Tatakis D N; Wikesjo U M; Razi S S; Sigurdsson T J; Lee M B; Nguyen T; Ongpipattanakul B; Hardwick R
CORPORATE SOURCE: Loma Linda University, Advanced Education Program in Periodontics, CA 92354, USA.. dTatakis@sd.llu.edu
SOURCE: Journal of clinical periodontology, (2000 Sep) Vol. 27, No. 9, pp. 698-704.
Journal code: 0425123. ISSN: 0303-6979.
PUB. COUNTRY: Denmark
DOCUMENT TYPE: (COMPARATIVE STUDY)
Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Dental Journals; Priority Journals
ENTRY MONTH: 200101
ENTRY DATE: Entered STN: 22 Mar 2001
Last Updated on STN: 29 May 2001
Entered Medline: 3 Jan 2001

AB BACKGROUND: Transforming growth factor-beta (TGF-beta) represents a family of growth-modulating proteins with fundamental roles in connective tissue and bone development. The objective of this study was to evaluate the potential for regeneration of alveolar bone and cementum following surgical implantation of recombinant human TGF-beta 1 (rhTGF-beta 1). METHOD: Bilateral, critical size, supra-alveolar periodontal defects in 5 beagle dogs were surgically implanted with rhTGF-beta 1 in a calcium carbonate carrier (CaCO3) or with carrier alone. The animals were euthanized at 4 weeks postsurgery and block-biopsies of the defects were processed for histologic and histometric analysis. RESULTS: Surgical implantation of rhTGF-beta 1 resulted in minimal, if any, stimulation of alveolar bone or cementum regeneration.
Linear bone and cementum regeneration in rhTGF-beta 1-treated defects was 1.2+/-0.6 and 0.01+0.01 mm, respectively. Corresponding values for the controls were 1.0+/-0.6 and 0.01+/-0.03 mm. CONCLUSIONS: The results suggest that, under the conditions (dose, carrier, defect type) evaluated here, treatment of periodontal defects in beagle dogs with rhTGF-beta 1 may be of limited clinical benefit.

L7 ANSWER 27 OF 49 MEDLINE on STN
ACCESSION NUMBER: 2001225005 MEDLINE
DOCUMENT NUMBER: PubMed ID: 11168227
TITLE: Controlled local application of basic fibroblast growth factor (FGF-2) accelerates the healing of GBR. An experimental study in beagle dogs.
AUTHOR: Hosokawa R; Kikuzaki K; Kimoto T; Matsuura T; Chiba D; Wadamoto M; Sato Y; Maeda M; Sano A; Akagawa Y
CORPORATE SOURCE: Department of Removable Prosthodontics, Hiroshima University School of Dentistry, Hiroshima, Japan.. rhosoka@ipc.hiroshima-u.ac.jp
SOURCE: Clinical oral implants research, (2000 Aug) Vol. 11, No. 4, pp. 345-53.
Journal code: 9105713. ISSN: 0905-7161.
PUB. COUNTRY: Denmark
DOCUMENT TYPE: (COMPARATIVE STUDY)
Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English

FILE SEGMENT: Dental Journals
ENTRY MONTH: 200104
ENTRY DATE: Entered STN: 2 May 2001
Last Updated on STN: 2 May 2001
Entered Medline: 26 Apr 2001

AB This animal study was performed to ascertain whether the regeneration of membrane-protected bone defects can be accelerated by the controlled application of basic fibroblast growth factor (FGF-2) using a new drug delivery system. Standardized alveolar bone defects were made surgically in 9 beagle dogs, and FGF-2 was administered using specially made collagen minipellets. A minipellet containing either 0.15 microgram FGF-2 (FGF) or 0 microgram FGF-2 (placebo) was placed in the defect or no minipellet was used (control), and bone regeneration was evaluated radiologically, histologically, and histometrically 8 weeks after the operation. Radiographs showed a surprisingly large radiopaque region in FGF sites compared with placebo or control sites. Histologically, mature bone filled the majority of the inner space of the membrane-protected defect in FGF sites. New bone formation was also seen in the control and the placebo sites, however, it filled less than half the area of the defect. Histometrically, the area of regenerated bone in FGF sites was significantly higher than in the other sites ($P < 0.01$). These results demonstrate that the controlled application of FGF-2 accelerates bone regeneration in membrane-protected bone defects in the canine model.

L7 ANSWER 28 OF 49 MEDLINE on STN
ACCESSION NUMBER: 2001664065 MEDLINE
DOCUMENT NUMBER: PubMed ID: 11709925
TITLE: Tissue engineering in periodontics and implantology using rhBMP-2.
AUTHOR: Danesh-Meyer M J
CORPORATE SOURCE: Institute of Dental Implants and Periodontics, 196 Broadway, Newmarket, Auckland 1001, New Zealand.
SOURCE: Annals of the Royal Australasian College of Dental Surgeons, (2000 Oct) Vol. 15, pp. 144-9. Ref: 27
Journal code: 8006208. ISSN: 0158-1570.
PUB. COUNTRY: Australia
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Dental Journals
ENTRY MONTH: 200112
ENTRY DATE: Entered STN: 19 Nov 2001
Last Updated on STN: 23 Jan 2002
Entered Medline: 20 Dec 2001

AB Regenerative procedures using barrier membrane technology are presently well established in periodontology and implantology. Guided Tissue Regeneration (GTR) and Guided Bone Regeneration (GBR) are based on the premise that barrier membrane materials will promote selective cell re-population and subsequent reconstitution of the periodontal attachment apparatus as well as bone. However, because the predictability of these techniques can be variable, the application of this technology may frequently be restricted to specific case types. There has been increasing interest in the possibility of pharmacologically enhancing regeneration of periodontal and osseous tissues, thereby ultimately providing a more significant and predictable clinical outcome. Bone Morphogenetic Proteins (BMPs) have been isolated, cloned and evaluated in various pre-clinical and clinical models. The results of recent studies involving regeneration of alveolar bone in conjunction with implant therapy and regeneration of PDL attachment with

BMPs have been very encouraging. In particular, rhBMP-2 has been shown to promote a degree of osseous and periodontal repair which is significantly greater than that previously seen with conventional GTR/GBR therapies and/or the use of various osseous grafting materials.

L7 ANSWER 29 OF 49 MEDLINE on STN
ACCESSION NUMBER: 2000158480 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10695933
TITLE: Treatment of peri-implant defects with combination growth factor cement.
AUTHOR: Meraw S J; Reeve C M; Lohse C M; Sioussat T M
CORPORATE SOURCE: Department of Dental Specialties, Mayo Clinic and Mayo Foundation, Rochester, MN, USA.
SOURCE: Journal of periodontology, (2000 Jan) Vol. 71, No. 1, pp. 8-13.
Journal code: 8000345. ISSN: 0022-3492.
PUB. COUNTRY: United States
DOCUMENT TYPE: (COMPARATIVE STUDY)
Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Dental Journals; Priority Journals
ENTRY MONTH: 200003
ENTRY DATE: Entered STN: 30 Mar 2000
Last Updated on STN: 30 Mar 2000
Entered Medline: 21 Mar 2000

AB BACKGROUND: The use of growth factor agents in the regeneration of oral tissues is an area of current investigation. Combinations of growth factors have been used synergistically to improve tissue regeneration. The aim of this study was to determine the effects of a combination growth factor cement (GFC) on guided bone regeneration around dental implants. METHODS: A combination of bone morphogenetic protein-2 (BMP-2), transforming growth factor-beta (TGF-beta), platelet-derived growth factor (PDGF), and basic fibroblast growth factor (bFGF) was used in a bioabsorbable, non-hydroxyapatite, calcium phosphate cement. Five adult hound dogs were used to compare the effects of GFC, plain cement, and control (no cement). The right and left second, third, and fourth mandibular premolar teeth were extracted; the implant osteotomies were prepared; and a uniform circumferential gap was prepared 1.5 mm beyond the width of the implant in the coronal half of the osteotomy for cement placement. Titanium machine-polished dental implants were placed in the prepared sites, and coronal defects were treated according to previously randomized, assigned modality. A bioabsorbable collagen membrane was secured over the control site, and the flaps were closed primarily. The dogs were maintained on a soft diet to avoid soft tissue trauma. The dogs were sacrificed at 3 months. The specimens were sectioned, mounted, and stained with Stevenel's blue and van Gieson's picric fuchsin. The bone-to-implant contact and bone 1 mm peripheral to the implant surface were recorded with a computerized microscopic digitizer. RESULTS: The findings of this study indicate a significant effect of GFC on increased bone-to-implant contact and amount of bone per surface area compared with the other treatment modalities ($P < 0.0009$). Plain cement demonstrated slight but nonsignificant increases compared with the control ($P > 0.05$). CONCLUSIONS: GFC increases bone-to-implant contact and bone surface area within peri-implant defects. Further studies may be beneficial to determine the feasibility of its use for other regenerative applications.

L7 ANSWER 30 OF 49 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1999:571736 CAPLUS
DOCUMENT NUMBER: 131:204662
TITLE: Compositions and therapeutic methods using morphogenic proteins and stimulatory factors
INVENTOR(S): Lee, John C.; Yeh, Lee-Chuan C.
PATENT ASSIGNEE(S): Stryker Corporation, USA
SOURCE: U.S., 49 pp., Cont.-in-part of U.S. Ser. No. 570,752.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5948428	A	19990907	US 1996-761468	19961206 <--
US 6048964	A	20000411	US 1995-570752	19951212 <--
US 5854207	A	19981229	US 1998-27873	19980223 <--
US 5916870	A	19990629	US 1998-158220	19980922 <--
US 7026292	B1	20060411	US 1999-287500	19990407
WO 2005084701	A1	20050915	WO 2004-US3440	20040204
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1722810	A1	20061122	EP 2004-708263	20040204
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LI, LU, MC, NL, PT, RO, SE, SI, SK, TR				
US 20060111298	A1	20060525	US 2006-332656	20060113
US 20070066525	A1	20070322	US 2006-499775	20060803

PRIORITY APPLN. INFO.:		
US 1995-570752	A2	19951212
US 1998-27873	A3	19980223
US 1998-158220	A3	19980922
US 1999-287500	A1	19990407
WO 2004-US3440	W	20040204

AB The present invention provides pharmaceutical compns. comprising a morphogenic protein stimulatory factor (MPSF) for improving the tissue-inductive activity of morphogenic proteins, particularly those belonging to the BMP protein family. Methods for improving the tissue inductive activity of a morphogenic protein in a mammal using those compns. are provided. This invention also provides implantable morphogenic devices comprising a morphogenic protein and a MPSF disposed within a carrier, that are capable of inducing tissue formation in allogeneic and xenogeneic implants. Methods for inducing local tissue formation from a progenitor cell in a mammal using those devices are also provided. A method for accelerating allograft repair in a mammal using morphogenic devices is provided. This invention also provides a prosthetic device comprising a prosthesis coated with a morphogenic protein and a MPSF, and a method for promoting in vivo integration of an implantable prosthetic device to enhance the bond strength between the prosthesis and the existing target tissue at the joining site. Methods of treating tissue degenerative conditions in a mammal using the pharmaceutical compns. are also provided.

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 31 OF 49 MEDLINE on STN DUPLICATE 1
ACCESSION NUMBER: 1999433624 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10505805
TITLE: Bone regeneration by recombinant human bone morphogenetic protein-2 in rat mandibular defects. An experimental model of defect filling.
AUTHOR: Higuchi T; Kinoshita A; Takahashi K; Oda S; Ishikawa I
CORPORATE SOURCE: Department of Periodontology, Faculty of Dentistry, Tokyo Medical and Dental University, Japan.. higumail@green.ocn.ne.jp
SOURCE: Journal of periodontology, (1999 Sep) Vol. 70, No. 9, pp. 1026-31.
Journal code: 8000345. ISSN: 0022-3492.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Dental Journals; Priority Journals
ENTRY MONTH: 199910
ENTRY DATE: Entered STN: 11 Jan 2000
Last Updated on STN: 11 Jan 2000
Entered Medline: 26 Oct 1999
AB BACKGROUND: Bone defects and irregularities are major problems for dental implant and periodontal therapies. METHODS: We investigated whether the application of recombinant human bone morphogenetic protein-2 (rhBMP-2) induces bone formation in through-and-through bone defects in the rat mandible. A round through-and-through bone defect (5 mm in diameter) was created in the angle of the mandible on both sides of the jaw using a steel round bur in each of 8 Long-Evans rats. In the experimental group, polylactic acid-polyglycolic acid copolymer/gelatin sponge (PGS) containing rhBMP-2 (6 microg/60 microl) was inserted in the bone defect. In the control group, the same carrier without rhBMP-2 was applied in the bone defect on the opposite side. Four weeks after application, the rats were sacrificed. Step serial sections stained with hematoxylin and eosin at intervals of 200 microm were prepared in a bucco-lingual direction. The size of the bone defects and new bone formation were evaluated histometrically. RESULTS: In all cases in the experimental group, a large quantity of newly formed bone was observed. The bone defects were completely filled with new bone in 4 of 8 rats in the experimental group. In the control group, small amounts of new bone formation were observed along the border of the original mandibular bone. Histometrical analysis revealed that the amount of new bone was significantly larger in the rhBMP-2 treated sites than in the control sites (P <0.0001; paired t-test). CONCLUSIONS: These results indicate that the rhBMP-2/PGS system induced effective bone regeneration on mandibular defects in rats. This procedure may be suitable as an experimental model for bone regeneration using various growth factors and effective for alveolar ridge augmentation followed by dental implant surgery.

L7 ANSWER 32 OF 49 MEDLINE on STN
ACCESSION NUMBER: 1999383044 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10453668
TITLE: Plasma rich in growth factors: preliminary results of use in the preparation of future sites for implants.
AUTHOR: Anitua Eeduardoanitua@jet.es
SOURCE: The International journal of oral & maxillofacial implants, (1999 Jul-Aug) Vol. 14, No. 4, pp. 529-35.
Journal code: 8611905. ISSN: 0882-2786.
PUB. COUNTRY: United States

DOCUMENT TYPE: (CASE REPORTS)
(CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
(RANDOMIZED CONTROLLED TRIAL)
LANGUAGE: English
FILE SEGMENT: Dental Journals; Priority Journals
ENTRY MONTH: 199909
ENTRY DATE: Entered STN: 21 Sep 1999
Last Updated on STN: 21 Sep 1999
Entered Medline: 8 Sep 1999

AB This article presents preliminary clinical evidence of the beneficial effect of the use of plasma rich in growth factors of autologous origin. The plasma is obtained from the individual patient by plasmapheresis. The macroscopic and microscopic results obtained with bone regeneration using this technique, which uses no membrane or barrier, can be observed. The incorporation of these concepts can introduce several advantages, including the enhancement and acceleration of bone regeneration and more rapid and predictable soft tissue healing.

L7 ANSWER 33 OF 49 MEDLINE on STN
ACCESSION NUMBER: 2000149631 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10685370
TITLE: Controlled delivery of inductive proteins, plasmid DNA and cells from tissue engineering matrices.
AUTHOR: Murphy W L; Mooney D J
CORPORATE SOURCE: Department of Biomedical Engineering, University of Michigan, Ann Arbor 48109-2136, USA.
SOURCE: Journal of periodontal research, (1999 Oct) Vol. 34, No. 7, pp. 413-9. Ref: 50
Journal code: 0055107. ISSN: 0022-3484.
PUB. COUNTRY: Denmark
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Dental Journals; Priority Journals
ENTRY MONTH: 200003
ENTRY DATE: Entered STN: 30 Mar 2000
Last Updated on STN: 30 Mar 2000
Entered Medline: 23 Mar 2000

AB It has been estimated that half the annual health care budget in the United States is spent on patients suffering from tissue loss and late stage organ failure. Critical limitations inherent in traditional therapies call for novel tissue and organ replacement strategies. This paper discusses development of biomaterials for conductive, inductive and cell-based tissue replacement strategies. Biodegradable polymer scaffolds can be used as space-filling matrices for tissue development and barriers to migration of epithelial cells in tissue conductive approaches. Inductive approaches involve sustained delivery of bioactive factors, such as protein growth factors and DNA, to alter cell function in localized regions. Factors can be released from highly porous polymer scaffolds to allow factor delivery and tissue development to occur in concert. Cell-based approaches involve seeding of cells onto polymeric scaffolds in vitro and subsequent transplantation of the scaffold. New scaffold materials are being developed that address specific tissue engineering design requirements, and in some cases attempt to mimic natural extracellular matrices. These strategies together offer the possibility of predictably forming specific tissue structures, and may provide solutions to problems such as periodontal ligament detachment, alveolar bone resorption and furcation defects.

L7 ANSWER 34 OF 49 MEDLINE on STN
ACCESSION NUMBER: 1999309953 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10382580
TITLE: Periodontal repair in dogs: effect of rhBMP-2 concentration on regeneration of alveolar bone and periodontal attachment.
AUTHOR: Wikesjo U M; Guglielmoni P; Promsudthi A; Cho K S; Trombelli L; Selvig K A; Jin L; Wozney J M
CORPORATE SOURCE: Bone Biology and Applications, Genetics Institute, Inc., Andover, MA, USA.. uwikesjo@dental.temple.edu
SOURCE: Journal of clinical periodontology, (1999 Jun) Vol. 26, No. 6, pp. 392-400.
Journal code: 0425123. ISSN: 0303-6979.
PUB. COUNTRY: Denmark
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Dental Journals; Priority Journals
ENTRY MONTH: 199907
ENTRY DATE: Entered STN: 27 Jul 1999
Last Updated on STN: 13 Jan 2000
Entered Medline: 15 Jul 1999

AB The objective of this study was to evaluate the effect of recombinant human bone morphogenetic protein-2 (rhBMP-2) concentration on regeneration of alveolar bone and cementum, and on associated root resorption and ankylosis. Contralateral, critical size, supra-alveolar, periodontal defects were surgically produced and immediately implanted with rhBMP-2 in an absorbable collagen sponge (ACS) carrier in 8, young adult, male, beagle dogs. 6 animals received rhBMP-2/ACS (rhBMP-2 at 0.05, 0.10, or 0.20 mg/mL; total construct volume/defect approximately 4.0 mL) in contralateral defects following an incomplete block design. 2 animals received rhBMP-2/ACS (rhBMP-2 at 0 and 0.10 mg/mL) in contralateral defects (controls). The animals were euthanised at 8 weeks post-surgery and block sections of the defects were collected for histologic and histometric analysis. Supra-alveolar periodontal defects receiving rhBMP-2 at 0.05, 0.10, or 0.20 mg/ml exhibited extensive alveolar regeneration comprising 86%, 96%, and 88% of the defect height, respectively. Cementum regeneration encompassed 8%, 6%, and 8% of the defect height, respectively. Root resorption was observed for all rhBMP-2 concentrations. Ankylosis was observed in almost all teeth receiving rhBMP-2. Control defects without rhBMP-2 exhibited limited, if any, evidence of alveolar bone and cementum regeneration, root resorption, or ankylosis. Within the selected rhBMP-2 concentration and observation interval, there appear to be no meaningful differences in regeneration of alveolar bone and cementum. There also appear to be no significant differences in the incidence and extent of root resorption and ankylosis, though there may be a positive correlation with rhBMP-2 concentration.

L7 ANSWER 35 OF 49 MEDLINE on STN
ACCESSION NUMBER: 1999073052 MEDLINE
DOCUMENT NUMBER: PubMed ID: 9855821
TITLE: Effects of resorbable membrane placement and human osteogenic protein-1 on hard tissue healing after periradicular surgery in cats.
AUTHOR: Maguire H; Torabinejad M; McKendry D; McMillan P; Simon J H
CORPORATE SOURCE: Loma Linda University School of Dentistry, CA, USA.
SOURCE: Journal of endodontics, (1998 Nov) Vol. 24, No. 11, pp. 720-5.
Journal code: 7511484. ISSN: 0099-2399.

PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Dental Journals
ENTRY MONTH: 199812
ENTRY DATE: Entered STN: 15 Jan 1999
Last Updated on STN: 15 Jan 1999
Entered Medline: 22 Dec 1998

AB Periradicular surgeries were performed on the maxillary cuspid teeth of twelve cats. Before reapproximation of the surgical flaps, eight of the osteotomies were covered with a resorbable membrane and eight were filled with human osteogenic protein-1 (hOP-1) on a collagen carrier. The remaining eight sites received no further treatment and served as controls. The animals were euthanized after 12 wk, and the specimens were examined histomorphometrically for the presence or absence of osseous regeneration, inflammation, and cementum formation on the root ends. The results showed that the sites treated with the membrane exhibited significantly more inflammation adjacent to the resected root ends ($p < 0.05$), and that the use of the membrane had no statistically significant effect on osseous healing or new cementum formation. The use of hOP-1 was associated with a significant decrease in the thickness of new cementum formed on the resected root ends ($p < 0.05$), but had no statistically significant effect on osseous healing or degree of inflammation. Based on these results, it seems that neither the use of hOP-1 nor resorbable membranes have a positive effect on periradicular tissue healing in endodontic surgery.

L7 ANSWER 36 OF 49 MEDLINE on STN
ACCESSION NUMBER: 1999015966 MEDLINE
DOCUMENT NUMBER: PubMed ID: 9799465
TITLE: Osteogenic inhibition by rat periodontal ligament cells: modulation of bone morphogenic protein-7 activity in vivo.
AUTHOR: Rajshankar D; McCulloch C A; Tenenbaum H C; Lekic P C
CORPORATE SOURCE: Samuel Lunenfeld Research Institute, Mount Sinai Hospital, Toronto, Canada.
SOURCE: Cell and tissue research, (1998 Dec) Vol. 294, No. 3, pp. 475-83.
Journal code: 0417625. ISSN: 0302-766X.
PUB. COUNTRY: GERMANY: Germany, Federal Republic of
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199901
ENTRY DATE: Entered STN: 28 Jan 1999
Last Updated on STN: 28 Jan 1999
Entered Medline: 8 Jan 1999

AB Periodontal ligament width is precisely maintained throughout the lifetime of adult mammals but the biological mechanisms that inhibit ingrowth of bone into this soft connective tissue are unknown. As bone morphogenic proteins strongly stimulate osteogenesis and can induce ectopic bone formation in vivo, we tested the hypothesis that topical application of this powerful osteogenic agent will overwhelm the osteogenic inhibitory mechanisms of periodontal ligament cells and induce ankylosis. Wounds through the alveolar bone and periodontal ligament were created in 45 male Wistar rats. Defects were filled with either a collagen implant or collagen plus bone morphogenic protein (BMP-7), or were left unfilled (controls). Three animals per time period were killed on days 2, 5, 10,

21 and 60 after surgery for each wound type. Cellular proliferation and clonal growth in periodontal tissues were assessed by 3H-thymidine labeling 1 h before death, followed by radioautography. Cellular differentiation of soft and mineralizing connective tissue cell populations was determined by immunohistochemical staining of alpha-smooth muscle actin, osteopontin and bone sialoprotein. In regenerating periodontium, BMP-7 induced abundant bone formation by 21 days (2.5-fold greater than controls or collagen implant only; $P<0.001$), but by day 60 the volume of the newly formed bone had returned to baseline levels and was similar for all groups. Independent of the type of treatment, periodontal ligament width was unchanged throughout the experimental period ($P>0.05$). Animals treated with BMP-7 implants showed greatly increased cellular proliferation in the periodontal ligament adjacent to the wound site and in the regenerating alveolar bone at days 5 and 10 after wounding compared to the other treatment groups ($P<0.005$). Animals in the BMP-7 group exhibited similar spatial and temporal staining patterns for alpha-smooth muscle actin, osteopontin and bone sialoprotein as controls. Collectively, these data show that BMP-7 promoted the proliferation of precursor cells in the periodontal ligament but did not induce osteogenic differentiation in this compartment. Consequently a powerful osteogenic stimulus like BMP-7 cannot significantly perturb the mechanisms that regulate periodontal ligament width and maintain periodontal homeostasis.

L7 ANSWER 37 OF 49 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1999:161507 CAPLUS
DOCUMENT NUMBER: 130:347787
TITLE: Tissue response after using platelet-derived growth factor (PDGF) on the periodontal ligament in tooth replantation
AUTHOR(S): Ninomiya, Akira; Iwanami, Tomotoshi; Kato, Hiroshi
CORPORATE SOURCE: Dep. Periodontol. Endodontol., Hokkaido Univ. Sch. Dent., Hokkaido, 060-8586, Japan
SOURCE: Nippon Shishubyo Gakkai Kaishi (1998), 40(4), 431-442
CODEN: NSKADI; ISSN: 0385-0110
PUBLISHER: Nippon Shishubyo Gakkai
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
AB This study evaluated the effect of platelet-derived growth factor (PDGF) on the tissue response of damaged region of the periodontal ligament after tooth replantation. The study was performed with 6 beagle dogs, which were divided into the following three groups: PDGF group, atelocollagen (AC) group, control group. The incisors and first premolars (48 teeth) were extracted, and 3 mm in width periodontal ligament was removed from around the mid-third of the root, which was marked by making notches on both sides. The PDGF group received 50 μl of atelocollagen containing 5 μg PDGF on the exposed root cementum surface, the AC group received 50 μl of atelocollagen only, and the control group received nothing. Replantation was performed after 10 min. Teeth were endodontically treated 2 wk after replantation, and examined histol. and histomorphometrically 2.4 and 8 wk after replantation. The results show that in the PDGF group, ankylosis was smallest among the three groups at every time point. In the AC group, ankylosis increased 4 wk after replantation and decreased 8 wk after replantation. In the control group, ankylosis was largest among the three groups at every time point. There were significant differences in the amount of ankylosis between the PDGF group and the control group, and between the PDGF group and the AC group 4

wk after replantation, and also between the PDGF group and the control group 8 wk after replantation. In all groups, the old cementum was gradually resorbed with increasing time after replantation, and a large part of the old cementum was gradually resorbed with increasing time after replantation, and a large part of the old cementum was decayed 8 wk after replantation. Formation of new cementum was largest in the PDGF group at every time point, and there were significant differences in the amount of new cementum formation between the PDGF group and the control group 4 wk after replantation, and also between the PDGF group and the control group, the AC group and the control group 8 wk after replantation. The present results suggest that PDGF reduces ankylosis in the damaged region of the periodontal ligament after tooth replantation, and may be effective in regeneration of the periodontal ligament and cementum.

L7 ANSWER 38 OF 49 MEDLINE on STN
ACCESSION NUMBER: 1998386819 MEDLINE
DOCUMENT NUMBER: PubMed ID: 9720350
TITLE: [Guided tissue regeneration--the beginning of a new era in periodontal surgery].
Vodena tkivna regeneracija--pocetak nove ere u parodontalnoj hirurgiji.
AUTHOR: Tesic D; Duric M; Hillier-Kolarov V
CORPORATE SOURCE: Klinika za stomatologiju, Medicinski fakultet, Novi Sad.
SOURCE: Medicinski pregled, (1998 May-Jun) Vol. 51, No. 5-6, pp. 237-41.
Journal code: 2985249R. ISSN: 0025-8105.
PUB. COUNTRY: Yugoslavia
DOCUMENT TYPE: (ENGLISH ABSTRACT)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: Croatian
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199809
ENTRY DATE: Entered STN: 6 Oct 1998
Last Updated on STN: 6 Oct 1998
Entered Medline: 24 Sep 1998

AB The therapy of deep infrabony defects in periodontal diseases has been a great problem for decades both for dentists and their patients, as well. After application of classic therapy in patients with serious stages of periodontal diseases (subgingival curettage, Modified Widmann flap surgery with and without implantation of implants) a significant strengthening of teeth in alveolus was observed, as well as alleviation of patient's discomfort, and decrease of the depth of periodontal pockets, bleeding, inflammation, etc. However, in spite of the application of this therapy a postoperative defect was sometimes filled with different low tissues of periodontium, in other words periodont reparation took place. For this reason, recidives could happen, as well as gingival recession, inflammation, root resorption. At the beginning of the nineties a new principal was introduced in the therapy of periodontal diseases: Guided Tissue Regeneration. This principal includes a controlled action between four different species of periodontal tissue: gingival epithelium, gingival connective tissue, alveolar bone, and periodontal ligament. This is achieved by surgical placement of non resorbale or bioresorbable periodontal membranes, which are placed during flap surgery above the previously treated infrabony defect. With membranes placed in that way the periodontal defect is for some time phisically separated from epithelium and gingival connective tissue and in that way alveolar bone is regenerated, as well as periodontal ligament

in other words restitutio ad integram takes place. Nowadays, two concepts of guided tissue regeneration can be considered: a concept of isolation and a concept of integration. The first concept includes application of non resorbable, most frequently synthetic, membranes (so-called E-PTFE polyterafluorethylene) which replace the mucoperiosteal flap into its original position. After six weeks a patient is subjected to one more surgical intervention when flap is raised again and the non resorbable membrane is removed. The second operation diminishes the value and partially discredits the application of non resorbable membranes. For this reason, the concept of integration is today more frequently applied, that is to say the application of bioresorbable membranes is nowadays very frequent. They are by their chemical composition poly D,L lactides and they provide membranes with ideal resorption properties. Of great importance is their property to stay unchanged for six weeks, and then to be resorbed by geometrical progression. As the membrane is resorbed, it is not necessary to remove it, so there is no need for another surgery, and that enables the process of healing to proceed undisturbedly. For this reason, the concept of integration is also called a Single Step Method. CONCLUSION: On the basis of papers of the leading scientists from the field of guided tissue regeneration it can be concluded that by application of Single Step Method or in other words by application of bioresorbable membranes a tremendous progress was made in the therapy of infrabony periodontal defects. The application of these membranes is especially indicated in treating degree II furcation defects, then infrabony defects particularly with 2 and 3 walls and good results were also achieved in the therapy of a big problem in esthetic periodontology--gingival recession. A relatively low price, as well as simple application, biological compatibility and undisturbed process of healing of the wound are great advantages of the application of bioresorbable membranes, so in the near future their application on a large scale can be expected in the therapy of periodontal diseases, as well as further research work on their development, especially on their impregnation by growth factors, antibiotics, etc.

L7 ANSWER 39 OF 49 MEDLINE on STN DUPLICATE 2
ACCESSION NUMBER: 1997239566 MEDLINE
DOCUMENT NUMBER: PubMed ID: 9085228
TITLE: Underlying mechanisms at the bone-surface interface during regeneration.
AUTHOR: Schwartz Z; Kieswetter K; Dean D D; Boyan B D
CORPORATE SOURCE: Department of Periodontics, Hebrew University Hadassah Faculty of Dental Medicine, Jerusalem, Israel.. MESSIER@UTHSCSA.edu
SOURCE: Journal of periodontal research, (1997 Jan) Vol. 32, No. 1 Pt 2, pp. 166-71. Ref: 36
Journal code: 0055107. ISSN: 0022-3484.
PUB. COUNTRY: Denmark
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Dental Journals; Priority Journals
ENTRY MONTH: 199706
ENTRY DATE: Entered STN: 9 Jul 1997
Last Updated on STN: 9 Jul 1997
Entered Medline: 23 Jun 1997
AB The goal of regenerative therapy around teeth and implants is to create a suitable environment in which the natural biological potential for functional regeneration of periodontal ligament and/or bone can be maximized. In order for the regenerative process to be successful, the following factors must be addressed: prevention of acute inflammation from

bacteria, mechanical stability of the wound, creation and maintenance of blood clot-filled space, isolation of the regenerative space from undesirable competing tissue types, and the creation of a desirable surface chemistry, energy, roughness and microtopography that can directly influence cellular response, ultimately affecting the rate and quality of new tissue formation and, therefore, the regeneration process. This paper will review how surface characteristics (chemistry and roughness) can affect cell response and local factor production. To evaluate the effect of surface chemistry on cell proliferation and differentiation costochondral chondrocytes were grown on standard tissue culture plastic dishes sputter-coated with different materials. The results indicate that surface materials can elicit differential responses in cell metabolism and phenotypic expression in vitro. In a second study, the effect of varying titanium surface roughnesses on osteoblast-like cell behavior was examined. Surface roughness was found to alter osteoblast proliferation, differentiation and matrix production in vitro. In addition, production of PGE2 and TGF beta by these cells was also shown to increase with increasing surface roughness, indicating that substrate surface roughness also affects cytokine and growth factor production. The role of surface roughness in determining cellular response was further explored by comparing the response of osteoblasts grown on new and previously used surfaces. The results of these latter studies showed that cell proliferation, expression of differentiation markers and overall matrix production are not altered when cells are grown on used vs. virgin surfaces. This suggests the possibility that implants may be re-used, especially in the same patient, if they are appropriately treated. In this context, it should also be noted that rougher titanium surfaces may require more extensive cleaning procedures. From a global perspective, these studies provide some insight into how bone regeneration can be optimized in the presence of an implant or tooth root residing at the site of a bony defect. Since the new bone being produced, during regeneration, grows from a distal area toward the implant or tooth root surface, it is hypothesized that the osteoblasts growing on the surface of the implant may produce local factors that can affect the bone healing process distally. In short, it appears that the surface characteristics of an implant, particularly roughness, may direct tissue healing and, therefore, subsequent implant success in sites of regeneration by modulating osteoblast phenotypic expression.

L7 ANSWER 40 OF 49 MEDLINE on STN DUPLICATE 3
ACCESSION NUMBER: 1996365499 MEDLINE
DOCUMENT NUMBER: PubMed ID: 8769676
TITLE: Soft and hard tissue response to endosseous dental implants.
AUTHOR: Listgarten M A
CORPORATE SOURCE: University of Pennsylvania, School of Dental Medicine, Philadelphia 19104, USA.
SOURCE: The Anatomical record, (1996 Jun) Vol. 245, No. 2, pp. 410-25. Ref: 154
Journal code: 0370540. ISSN: 0003-276X.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199610
ENTRY DATE: Entered STN: 6 Nov 1996
Last Updated on STN: 6 Nov 1996
Entered Medline: 24 Oct 1996
AB The last two decades have seen a remarkable growth in the development of

dental implants and their incorporation into the practice of dentistry. This turn of events was made possible by an improved understanding of biological response of living tissues to implants as well as clinical trials that validated the long-term success of these implants. Despite major structural differences between teeth and implants, such as the absence of a periodontal ligament around implants, the latter appear to provide a reliable functional replacement for their natural counterparts. This review briefly summarizes the major structural differences of the interfacial region of teeth and dental implants and their supporting tissues. It focuses on our current understanding of the soft and hard tissue responses to submerged and nonsubmerged root-form dental implants. The influence of a number of factors that affect the tissue response is reviewed, including biomaterials, implant design, surgical technique, and the local microbiota. Our recently acquired ability to modulate wound healing with guided tissue regeneration and growth factors will undoubtedly play an important role in the future utilization and success rates of dental implants.

L7 ANSWER 41 OF 49 MEDLINE on STN
ACCESSION NUMBER: 1996241532 MEDLINE
DOCUMENT NUMBER: PubMed ID: 8624562
TITLE: Guided bone regeneration for dental implants.
AUTHOR: Hermann J S; Buser D
CORPORATE SOURCE: University of Texas Health Science Center at San Antonio, USA.
SOURCE: Current opinion in periodontology, (1996) Vol. 3, pp. 168-77. Ref: 70
Journal code: 9438825. ISSN: 1065-626X.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Dental Journals
ENTRY MONTH: 199606
ENTRY DATE: Entered STN: 8 Jul 1996
Last Updated on STN: 8 Jul 1996
Entered Medline: 27 Jun 1996
AB The application of barrier membranes to promote bone regeneration was first described by Hurley et al. (J Bone Joint Surg 1959, 41A:1243-1254) in orthopedic research. However, the clinical potential of this membrane technique was recognized in the early 1980s for periodontal regeneration. Based on promising results in periodontology, researchers started to evaluate the potential of this technique--often called guided bone regeneration (GBR)--to regenerate bone defects in the alveolar process. This review describes the current knowledge of GBR in implant dentistry. Emphasis is placed on the scientific basis of GBR and the various surgical factors necessary to achieve predictable results with GBR procedures. In addition, unanswered questions that require future research are addressed including long-term success rates of dental implants placed in combination with barrier membranes, evaluation of resorbable membranes, and use of bone substitutes or growth factors to enhance bone regeneration in membrane-protected defects.

L7 ANSWER 42 OF 49 MEDLINE on STN
ACCESSION NUMBER: 1996241530 MEDLINE
DOCUMENT NUMBER: PubMed ID: 8624560
TITLE: Polypeptide growth factors for

periodontal regeneration.
AUTHOR: Howell T H; Martuscelli G; Oringer J
CORPORATE SOURCE: Harvard School of Dental Medicine, Boston, Massachusetts, USA.
SOURCE: Current opinion in periodontology, (1996) Vol. 3, pp. 149-56. Ref: 40
Journal code: 9438825. ISSN: 1065-626X.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Dental Journals
ENTRY MONTH: 199606
ENTRY DATE: Entered STN: 8 Jul 1996
Last Updated on STN: 8 Jul 1996
Entered Medline: 27 Jun 1996

AB The regeneration of periodontal attachment apparatus is particularly difficult to achieve, primarily because of the presence of many different kinds of tissue that must be restored to produce a functional unit. Traditional methods aimed at regenerating the periodontium have limited indications, and their results are not predictable. Recently, investigators have begun to understand the cellular processes necessary for repair and regeneration of periodontal tissues. Proteins called growth factors have been identified that coordinate these cellular events. The growth factors that may contribute to periodontal regeneration include platelet-derived growth factor, insulin-like growth factor, transforming growth factor-beta, and bone morphogenetic proteins. In vitro studies have demonstrated the positive effects of these factors on a number of cell types essential for periodontal regeneration. For instance, it has been shown that platelet-derived and insulin-like growth factors promote proliferation of osteoblasts an periodontal ligament cell-derived fibroblasts. Animal models have also been used to verify that growth factors can enhance regeneration in vivo following periodontal disease and as an adjunct to implant placement. In the future, human clinical trials will be required to identify the ideal growth factors, their proper doses, and the most suitable carrier system for them.

L7 ANSWER 43 OF 49 MEDLINE on STN DUPLICATE 4
ACCESSION NUMBER: 1996427680 MEDLINE
DOCUMENT NUMBER: PubMed ID: 8830996
TITLE: Periodontal tissue engineering by growth factors.
AUTHOR: Giannobile W V
CORPORATE SOURCE: Department of Periodontology, Harvard School of Dental Medicine, Dana-Farber Cancer Institute, Boston, Massachusetts 02115, USA.
CONTRACT NUMBER: K16 DE 00275 (United States NIDCR NIH HHS)
SOURCE: Bone, (1996 Jul) Vol. 19, No. 1 Suppl, pp. 23S-37S. Ref: 117
Journal code: 8504048. ISSN: 8756-3282.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals

ENTRY MONTH: 199612
ENTRY DATE: Entered STN: 28 Jan 1997
Last Updated on STN: 3 Mar 2000
Entered Medline: 20 Dec 1996

AB Polypeptide growth factors (GFs) have been shown to modulate the wound healing response in both hard and soft tissues. During the past decade, many investigators have demonstrated the anabolic effects of these wound healing molecules on the promotion of periodontal attachment structures, namely alveolar bone, periodontal ligament and tooth root cementum. The molecular cloning and large scale purification of GFs has allowed expanded in vivo studies on periodontal tissue regeneration. This review will outline specific effects of these factors at both the in vitro and in vivo level on the promotion of periodontal and peri-implant bone wound healing. This paper will conclude with a future perspective of ongoing studies in the human clinical trial arena using growth and osteoinductive factors to promote periodontal tissue regeneration and alveolar bone repair in the oral cavity.

L7 ANSWER 44 OF 49 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1996:546295 CAPLUS
DOCUMENT NUMBER: 125:212715
ORIGINAL REFERENCE NO.: 125:39547a,39550a
TITLE: Periodontal tissue engineering by growth factors
AUTHOR(S): Giannobile, W.V.
CORPORATE SOURCE: Department of Periodontology, Harvard School of Dental Medicine, Boston, MA, USA
SOURCE: Bone (New York) (1996), 19(1, Suppl., Proceedings of the Portland Bone Symposium, 1995), 23S-37S
CODEN: BONEDL; ISSN: 8756-3282
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review with 11 refs. Polypeptide growth factors (GFs) have been shown to modulate the wound healing response in both hard and soft tissues. During the past decade, many investigators have demonstrated the anabolic effects of these wound healing mols. on the promotion of periodontal attachment structures, namely alveolar bone, periodontal ligament and tooth root cementum. The mol. cloning and large scale purification of GFs has allowed expanded in vivo studies on periodontal tissue regeneration. This review will outline specific effects of these factors at both the in vitro and in vivo level on the promotion of periodontal and peri-implant bone wound healing. This paper will conclude with a future perspective of ongoing studies in the human clin. trial arena using growth and osteoinductive factors to promote periodontal tissue regeneration and alveolar bone repair in the oral cavity.

L7 ANSWER 45 OF 49 MEDLINE on STN
ACCESSION NUMBER: 1996205099 MEDLINE
DOCUMENT NUMBER: PubMed ID: 8636451
TITLE: Root cementum appearance in healthy monkeys and periodontitis-prone patients after different etching modalities.
AUTHOR: Blomlof J
CORPORATE SOURCE: Department of Oral Histology and Cell Biology, School of Dentistry, Karolinska Institutet, Stockholm, Sweden.
SOURCE: Journal of clinical periodontology, (1996 Jan)

Vol. 23, No. 1, pp. 12-8.
Journal code: 0425123. ISSN: 0303-6979.
PUB. COUNTRY: Denmark
DOCUMENT TYPE: (COMPARATIVE STUDY)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Dental Journals; Priority Journals
ENTRY MONTH: 199607
ENTRY DATE: Entered STN: 19 Jul 1996
Last Updated on STN: 19 Jul 1996
Entered Medline: 8 Jul 1996

AB The purpose of the present study was to compare cementum surfaces after etching at neutral or low pH in both healthy monkey teeth and periodontitis-affected human teeth. 16 monkey teeth and 16 human periodontitis-affected teeth were used. Etching with phosphoric and citric acids as well as EDTA was performed on the following surfaces: healthy monkey cementum, human cementum surfaces coronal and apical to the level of periodontal breakdown as well as exposed human dentin surfaces. Results indicate a profoundly higher capacity of EDTA to selectively expose collagen fibers in both healthy cementum surfaces and periodontitis -affected dentin surfaces compared to agents operating at low pH which seemed to erode the surfaces to varying degrees. Variable results were seen on cementum surfaces which had been exposed to the environment of the periodontal pocket or the oral cavity. In view of this, it would seem preferable to mechanically remove the superficial layer of "diseased" cementum prior to the etching procedure. In conventional periodontal surgery, etching may be of limited value. However, in regenerative procedures, exposure of an intact collagenous matrix provides a matrix for retention of implants of biologically active substances such as growth factors, in addition to serving as a biocompatible surface for periodontal ligament cell colonization.

L7 ANSWER 46 OF 49 EMBASE
ACCESSION NUMBER: 1996235268 EMBASE
TITLE: Periodontal tissue engineering by growth factors.
AUTHOR: Giannobile, W.V. (correspondence)
CORPORATE SOURCE: Department of Periodontology, Harvard School of Dental Medicine, Div. of Cell. and Molecular Biology, Boston, MA, United States.
AUTHOR: Giannobile, W.V. (correspondence)
CORPORATE SOURCE: Department of Periodontology, Harvard School of Dental Medicine, Div. of Cell. and Molecular Biology, 188 Longwood Ave., Boston, MA 02115, United States.
AUTHOR: Giannobile, W.V. (correspondence)
CORPORATE SOURCE: Department of Periodontology, Harvard School of Dental Medicine, Dana-Farber Cancer Institute, 188 Longwood Ave, Boston, MA 02115, United States.
SOURCE: Bone, (Jul 1996) Vol. 19, No. 1 SUPPL., pp. 23S-37S.
Refs: 117
ISSN: 8756-3282 CODEN: BONEDL
COUNTRY: United States
DOCUMENT TYPE: Journal; Conference Article; (Conference paper)
FILE SEGMENT: 003 Endocrinology
033 Orthopedic Surgery
037 Drug Literature Index
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 16 Sep 1996

Last Updated on STN: 16 Sep 1996

AB Polypeptide growth factors (GFs) have been shown to modulate the wound healing response in both hard and soft tissues. During the past decade, many investigators have demonstrated the anabolic effects of these wound healing molecules on the promotion of periodontal attachment structures, namely alveolar bone, periodontal ligament and tooth root cementum. The molecular cloning and large scale purification of GFs has allowed expanded in vivo studies on periodontal tissue regeneration. This review will outline specific effects of these factors at both the in vitro and in vivo level on the promotion of periodontal and peri-implant bone wound healing. This paper will conclude with a future perspective of ongoing studies in the human clinical trial arena using growth and osteoinductive factors to promote periodontal tissue regeneration and alveolar bone repair in the oral cavity.

L7 ANSWER 47 OF 49 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1994:473914 CAPLUS
DOCUMENT NUMBER: 121:73914
ORIGINAL REFERENCE NO.: 121:13027a,13030a
TITLE: Morphogen-induced periodontal tissue regeneration
INVENTOR(S): Kuberasampath, Thangavel; Rueger, David C.; Oppermann, Hermann; Cohen, Charles M.; Pang, Roy H. L.; Smart, John E.; Ozkaynak, Engin
PATENT ASSIGNEE(S): Creative Biomolecules, Inc., USA
SOURCE: PCT Int. Appl., 138 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 23
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9406399	A1	19940331	WO 1993-US8742	19930915 <--
W: AT, AU, BB, BG, BR, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, LK, LU, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2138270	A1	19930608	CA 1993-2138270	19930608 <--
CA 2138270	C	20000808		
WO 9325246	A1	19931223	WO 1993-US5446	19930608 <--
W: AU, CA, JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9345997	A	19940104	AU 1993-45997	19930608 <--
AU 668411	B2	19960502		
EP 646022	A1	19950405	EP 1993-916449	19930608 <--
EP 646022	B1	20050928		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 07504680	T	19950525	JP 1994-501663	19930608 <--
JP 2908563	B2	19990621		
AT 305315	T	20051015	AT 1993-916449	19930608
WO 9403075	A2	19940217	WO 1993-US7190	19930729 <--
WO 9403075	A3	19941110		
W: AT, AU, BB, BG, BR, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, LK, LU, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
EP 661933	A1	19950712	EP 1993-919858	19930729 <--
EP 661933	B1	19980422		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE						
JP 07509720	T	19951026	JP 1994-505463		19930729	<--
AT 165213	T	19980515	AT 1993-919858		19930729	<--
ES 2118253	T3	19980916	ES 1993-919858		19930729	<--
CA 2144513	A1	19930915	CA 1993-2144513		19930915	<--
CA 2144513	C	19981215				
AU 9351293	A	19940412	AU 1993-51293		19930915	<--
AU 670334	B2	19960711				
EP 665739	A1	19950809	EP 1993-922212		19930915	<--
EP 665739	B1	19990804				
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE						
JP 08501779	T	19960227	JP 1994-508301		19930915	<--
AT 182778	T	19990815	AT 1993-922212		19930915	<--
US 5656593	A	19970812	US 1993-155343		19931115	<--
US 6395883	B1	20020528	US 1995-402542		19950313	<--
US 5834179	A	19981110	US 1995-459346		19950602	<--
US 5652337	A	19970729	US 1995-479666		19950607	<--
US 5652118	A	19970729	US 1995-480528		19950607	<--
US 5733878	A	19980331	US 1996-643763		19960506	<--
US 6071708	A	20000606	US 1997-889419		19970708	<--
US 5854071	A	19981229	US 1997-901200		19970728	<--
US 6153583	A	20001128	US 1998-219391		19981223	<--
AU 9936757	A	19990826	AU 1999-36757		19990624	<--
AU 743061	B2	20020117				
US 20030105004	A1	20030605	US 2002-122026		20020412	<--
US 7268208	B2	20070911				
AU 2002034387	A	20020627	AU 2002-34387		20020417	<--
AU 773649	B2	20040527				
JP 2005287512	A	20051020	JP 2005-108242		20050405	
JP 2007051162	A	20070301	JP 2006-312291		20061117	
JP 4126321	B2	20080730				
US 20080227956	A1	20080918	US 2007-824672		20070702	
JP 2008163028	A	20080717	JP 2008-1668		20080108	
US 20080233170	A1	20080925	US 2008-38606		20080227	
PRIORITY APPLN. INFO.:			US 1992-945285	A	19920915	
			US 1993-29335	A	19930304	
			US 1993-40510	A	19930331	
			US 1991-667274	YY	19910311	
			US 1991-752964	B2	19910829	
			US 1991-252764		19910830	
			US 1991-752764	B2	19910830	
			US 1991-752857	B2	19910830	
			US 1991-752861	B2	19910830	
			US 1991-753059	B2	19910830	
			US 1992-841646	A3	19920221	
			US 1992-901703	A	19920616	
			US 1992-922813	B2	19920731	
			US 1992-923780	A	19920731	
			US 1992-938021	B2	19920828	
			US 1992-938336	B2	19920828	
			US 1992-938337	B2	19920828	
			US 1992-945286	B2	19920915	
			US 1992-946235	A	19920916	
			US 1992-946238	B2	19920916	
			US 1992-971009	B3	19921103	
			US 1992-971091	B2	19921103	
			US 1993-27070	B2	19930304	
			WO 1993-US5446	W	19930608	
			JP 1994-505462	A3	19930729	
			JP 1994-505485	A3	19930729	
			WO 1993-US7190	W	19930729	
			WO 1993-US8742	W	19930915	

US 1993-147023	A3	19931101
US 1993-155343	A1	19931115
US 1995-402542	A3	19950313
US 1995-447570	A1	19950523
US 1995-459346	A1	19950602
AU 1995-28223	A3	19950607
US 1995-479666	A3	19950607
US 1997-901200	A3	19970728
US 1997-957425	A1	19971024
AU 1999-36757	A	19990624
US 2002-122026	A1	20020412
US 2003-428997	A1	20030502
JP 2006-312291	A3	20061117
US 2006-643552	B1	20061220

AB Periodontal tissue morphogenesis is induced by treatment with a morphogen. This is useful for integrating an implanted tooth in a tooth socket and for inhibiting tissue loss associated with periodontal disease or injury. Expts. with implantation of teeth in dogs showed that after demineralization implanted teeth grew in direct contact with the bone attaching directly to the root or dentin surface with the development of ankylosis. When demineralized teeth were further extracted with guanidine.HCl 6M the implant was surrounded by a disorganized fibrous mass with loose ligament tissue. Incubation of the demineralized, guanidine extracted teeth with the morphogen OP-1 before implantation then organized cementum and periodontal ligament tissue formed with the newly formed cementum made up of immature columnar cells that formed into cementoblasts.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 48 OF 49 MEDLINE on STN

ACCESSION NUMBER: 1993359545 MEDLINE

DOCUMENT NUMBER: PubMed ID: 8354730

TITLE: Platelet-derived growth factor and dexamethasone combined with a collagen matrix induce regeneration of the periodontium in monkeys.

AUTHOR: Rutherford R B; Ryan M E; Kennedy J E; Tucker M M; Charette M F

CORPORATE SOURCE: University of Connecticut School of Dental Medicine, Farmington 06030.

CONTRACT NUMBER: NIDR R43-DE-09486 (United States NIDCR NIH HHS)

SOURCE: Journal of clinical periodontology, (1993 Aug) Vol. 20, No. 7, pp. 537-44.
Journal code: 0425123. ISSN: 0303-6979.

PUB. COUNTRY: Denmark

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)

LANGUAGE: English

FILE SEGMENT: Dental Journals; Priority Journals

ENTRY MONTH: 199309

ENTRY DATE: Entered STN: 8 Oct 1993
Last Updated on STN: 3 Mar 2000
Entered Medline: 23 Sep 1993

AB Platelet-derived growth factor (PDGF) and the glucocorticoid dexamethasone combined with a collagen carrier matrix (CM) induced regeneration of the periodontium in monkeys. Regeneration was stringently defined as: (1) new cementum, (2) new supra-crestal bone extending coronally from the residual alveolar interdental septum and (3) functionally-oriented periodontal ligament fibers attaching new cementum to new bone. A single application of

PDGF/dexamethasone/CM or CM was placed in debrided lesions of experimental periodontitis displaying 3-5 mm of attachment loss associated with horizontal and angular bony defects. Regeneration, judged histologically by these criteria and quantified by computer assisted histomorphometry after 4 weeks, was present only in PDGF/dexamethasone/CM treated lesions and not in those treated with CM or debridement alone. PDGF/dexamethasone/CM induced 5-fold more new cementum and ligament, and 7-fold more supra-crestal bone than control treatments. The presence of substantial amounts of regenerated periodontium including increased height of the alveolar bone; fill of vertically resorbed interdental alveolar septa in PDGF/dexamethasone/CM treated lesions suggests that this combination may provide a new therapeutic agent for the regeneration of lesions of periodontitis associated with horizontal as well as angular bony defects.

L7 ANSWER 49 OF 49 MEDLINE on STN
ACCESSION NUMBER: 1992393187 MEDLINE
DOCUMENT NUMBER: PubMed ID: 1355675
TITLE: New developments in synthetic bone replacement materials.
AUTHOR: Louise F R; Borghetti A F
CORPORATE SOURCE: University of Marseilles, Faculty of Dentistry, France.
SOURCE: Current opinion in dentistry, (1992 Mar) Vol. 2, pp. 97-103. Ref: 34
Journal code: 9106559. ISSN: 1046-0764.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Dental Journals
ENTRY MONTH: 199210
ENTRY DATE: Entered STN: 23 Oct 1992
Last Updated on STN: 6 Feb 1998
Entered Medline: 15 Oct 1992
AB Synthetic bone replacement materials continue to be much discussed in the current periodontal literature. Numerous reports have shown their clinical use in the treatment of intraosseous defects. Periodontal treatment aims also include regeneration of a new functional attachment. Although histologic studies have shown that most of the synthetic bone substitutes can enhance bone formation, they are not able to promote new attachment of periodontal tissues to the root surface previously exposed. Future studies are needed to assess whether these materials could be of use together with growth factors in composite grafts or in conjunction with guided tissue regeneration techniques.

=> FIL STNGUIDE

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	93.66	93.88

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-12.30	-12.30

FILE 'STNGUIDE' ENTERED AT 10:57:24 ON 10 JUN 2009

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Jun 5, 2009 (20090605/UP).

```
=>
Connection closed by remote host
```